Written in
NZ for NZ

Help Me at HOME Series

# Mathematics

## Student Workbook

### Book 6

40x Number Knowledge Worksheets

40x Curriculum Strand Worksheets

This resource covers **Level 3** and some **Level 4** achievement objectives as outlined in the

**Mathematics in the New Zealand Curriculum**

for the strands ...

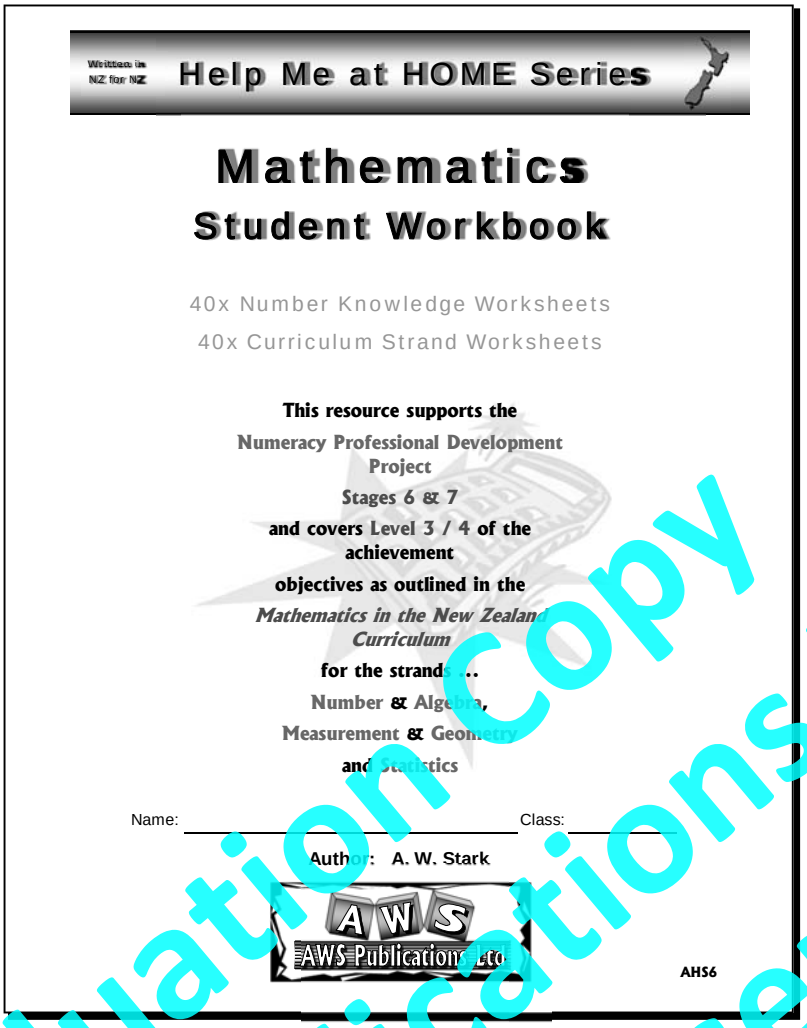
**Number** & **Algebra**, **Measurement** & **Geometry** and **Statistics**

and supports the Numeracy Professional Development Project - Stages 6 to 7

Name: _____ Class: _____

Author: A. W. Stark

AWS Publications Ltd




Evaluation Copy
AWS Publications Ltd
All rights reserved

Author: A. W. Stark

Copyright ©2008
**AWS** *Publications Ltd*

First Published January 2008
Formatting and publishing by
Andrew Stark

(formerly **AWS** *Teacher Resources*)
PO Box 21304
Edgeware
CHRISTCHURCH 8143
NEW ZEALAND

☎ (03) 338 0516 or (03) 338 0514
e-mail: aws.resources@xtra.co.nz
Website: www.awsresources.co.nz

This Student Workbook has been sold on the understanding that it is for the exclusive use of the purchaser.
No part of this Student Workbook can be reproduced or photocopied by any means, or stored on a retrieval system or transmitted in any form or by any means without the written permission of the author.

**Note from the author:**

About ...

## Help Me at Home Student Workbooks

This resource is one of a series of 8 resources written to support the ***Numeracy Project*** currently being implemented within many New Zealand schools and covers the achievement objectives as outlined in the ***Mathematics in the New Zealand Curriculum*** (2007 revised edition) document for the teaching areas or strands of ...

**Number** & **Algebra**, **Measurement** & **Geometry** and **Statistics**.

Note: The Number Knowledge section covers many of the Number & Algebra Achievement Objectives.

# Background Information:

*The Numeracy Professional Development Project* being implemented in many schools involves a **knowledge section** and a **strategy section**.

The **knowledge section** introduces and revises the key number knowledge facts required.

The **strategy section** describes the mental processes students employ to estimate answers and solve problems involving the four operations of addition, subtraction, multiplication and division.

The **strategy stages** are listed in this table below.

The aim of this project is to equip students with various strategies that allow them to be successful at Mathematics.

**In order for this to occur, it is essential for students to be confident with number knowledge.**

| | Strategy Stages |
|---|---|
| 0 | Emergent |
| 1 | One-to-one Counting |
| 2 | Counting from One on Materials |
| 3 | Counting from One by Imaging |
| 4 | Advanced Counting (Counting On) |
| 5 | Early Additive Part-Whole |
| 6 | Advanced Additive Part-Whole |
| 7 | Advanced Multiplicative Part-Whole |
| 8 | Advanced Proportional Part-Whole |

Without the 'knowledge', that is knowing the basic numeracy facts, it is difficult for a student to progress through the strategy stages. Students move through the strategy stages at different rates and may be working at different stages given a certain problem. This is often a result of gaps in key knowledge, hence it CANNOT be stressed enough the importance of learning the numeracy facts. How your child learns the numeracy facts is not as important as knowing them.

Evaluation Copy
AWS Publications Ltd
All rights reserved

# How to use this resource

## Number Knowledge Worksheets Section

(Pages 8 to 12, 14 to 18, 20 to 24 & 26 to 30)

- The **40 worksheets** in this section systematically introduce and revise numeracy facts and number knowledge strategies.
- Presented in different formats, these worksheets are designed to reinforce the **Numeracy Development Programme.** It is intended that one worksheet per week is completed in the order presented, from worksheet 1 to worksheet 40.
- One worksheet from the **Curriculum Strand Worksheet** section is selected to be done in conjunction with the **Number Knowledge Worksheet**.
- This book covers **Strategy Stages** 6 & 7.

One Worksheet from each section to be completed each week

## Curriculum Strand Worksheets Section

(Pages 34 to 73)

The **40 worksheets** in this section cover the Achievement Objectives as outlined in **Mathematics in the New Zealand Curriculum** for Number & Algebra, Measurement & Geometry and Statistics.

- These worksheets can be completed in any order.
- The **Curriculum Strand Worksheet** selected is to be done in conjunction with the **Number Knowledge Worksheet**.
- The **Curriculum Strand Worksheet** selected relates to the topic being covered at school or as revision.
- This book revises Level 3 of the **Curriculum** and introduces some Level 4.

## 4x Number Knowledge Progress Assessments

(Pages 13, 19, 25 & 31)

An **oral** progress assessment is available after every **10 Number Knowledge** worksheets.

### Note to Parents / Care-givers:

- Success in mathematics is greatly enhanced by having a good understanding of Number Knowledge. That is, from being able to add, subtract, multiply and divide with confidence, .... with success .... comes enjoyment.
- The aim of this resource is to provide you with a systematic and comprehensive series of worksheets, offering you guidance as to how mathematics is taught within schools.
- **Each strand worksheet has an EXTENSION activity for you to do with your child to reinforce ideas covered in the worksheet.**

### How can you help?

- Sit with your child as they work through each worksheet. Help them to understand what is required from each question, but try to avoid telling them the answers.

Numeracy Facts:

At the back of this resource there is a table of ALL numeracy facts introduced in this resource.

These tables can be used when assessing your child's Number Knowledge skill level.

There is also a 1 to 100 number matrix to assist your child to count in 1's up to 100.

Evaluation Copy
AWS Publications Ltd
All rights reserved

| Page | Number Knowledge Worksheet | Curriculum Strand Worksheet<br>Enter the worksheet number you are doing this week | Tick when completed |
|---|---|---|---|
| 8 | 1 | | |
| 8 | 2 | | |
| 9 | 3 | | |
| 9 | 4 | | |
| 10 | 5 | | |
| 10 | 6 | | |
| 11 | 7 | | |
| 11 | 8 | | |
| 12 | 9 | | |
| 12 | 10 | | |
| 13 | **Number Knowledge Progress Assessment 1** | | |
| 14 | 11 | | |
| 14 | 12 | | |
| 15 | 13 | | |
| 15 | 14 | | |
| 16 | 15 | | |
| 16 | 16 | | |
| 17 | 17 | | |
| 17 | 18 | | |
| 18 | 19 | | |
| 18 | 20 | | |
| 19 | **Number Knowledge Progress Assessment 2** | | |

| Page | Number Knowledge Worksheet | Curriculum Strand Worksheet<br>Enter the worksheet number you are doing this week | Tick when completed |
|---|---|---|---|
| 20 | 21 | | |
| 20 | 22 | | |
| 21 | 23 | | |
| 21 | 24 | | |
| 22 | 25 | | |
| 22 | 26 | | |
| 23 | 27 | | |
| 23 | 28 | | |
| 24 | 29 | | |
| 24 | 30 | | |
| 25 | **Number Knowledge Progress Assessment 3** | | |
| 26 | 31 | | |
| 26 | 32 | | |
| 27 | 33 | | |
| 27 | 34 | | |
| 28 | 35 | | |
| 28 | 36 | | |
| 29 | 37 | | |
| 29 | 38 | | |
| 30 | 39 | | |
| 30 | 40 | | |
| 31 | **Number Knowledge Progress Assessment 4** | | |

Evaluation Copy
AWS Publications Ltd
All rights reserved

# Curriculum Strand Worksheets

(Tick next to worksheet as each ONE is completed)

| Page | | | Tick | Page | | | Tick |
|---|---|---|---|---|---|---|---|
| 34 | 1 | Reading and writing numbers | | 54 | 21 | Reading scales / measuring & drawing lines | |
| 35 | 2 | Place value revision | | 55 | 22 | Geometry words & naming angles | |
| 36 | 3 | Addition & subtraction strategies | | 56 | 23 | Measuring and drawing angles | |
| 37 | 4 | More addition & subtraction strategies | | 57 | 24 | Perimeter | |
| 38 | 5 | Ordering decimals | | 58 | 25 | Area | |
| 39 | 6 | Multiples of 9's / x & ÷ facts | | 59 | 26 | Volume | |
| 40 | 7 | Rounding numbers and estimating answers | | 60 | 27 | Time | |
| 41 | 8 | Multiplication strategies | | 61 | 28 | 2D & 3D shapes | |
| 42 | 9 | Division strategies | | 62 | 29 | Reading map (grid) references | |
| 43 | 10 | Special Numbers | | 63 | 30 | Finding location using co-ordinates | |
| 44 | 11 | Fractions | | 64 | 31 | Reflection & Rotation | |
| 45 | 12 | More fractions | | 65 | 32 | Translation & Enlargements | |
| 46 | 13 | Equivalent fractions | | 66 | 33 | Conducting an investigation | |
| 47 | 14 | Fractions / decimals / percentages | | 67 | 34 | Sorting data using tally charts | |
| 48 | 15 | Negative numbers | | 68 | 35 | Column graphs, pictograms & dot plots | |
| 49 | 16 | Solving equations | | 69 | 36 | Stem and leaf graphs & time series graphs | |
| 50 | 17 | Number patterns or sequences | | 70 | 37 | Finding the mean (average) and the range | |
| 51 | 18 | Measuring units - length | | 71 | 38 | Finding the median and the mode | |
| 52 | 19 | Measuring units weight (mass) | | 72 | 39 | Finding outcomes | |
| 53 | 20 | Measuring units volume (capacity) | | 73 | 40 | Simple probability | |

Evaluation Copy
AWS Publications Ltd
All rights reserved

# Number Knowledge Worksheet Section

The following activities are covered in worksheets 1 to 10:

- **Read** and **write** numbers while **skip counting** in **4's**, **6's**, **7's**, **8's** and **9's** in a **forward** or **backward** sequence.

  *Example:* 7, 14, 21, _____, 35, _____, 49, _____, 63, _____, 77, 84, _____, 98, _____ etc.

- **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's write** the number that comes **after**, **before** or **between** the given numbers.

  *Example:* after 18, _____, before _____, 36 between 54, _____, 66

- **One of ELEVEN activities involving ...**
  Ordering whole numbers or decimals, writing number words as numerals, writing numerals as number words, adding numbers in a matrix, exploring place value using money, whole numbers and decimals, rounding numbers to the nearest 10, 100 or 1000 and estimating answers, understanding fractions, finding a fraction of a group of shapes and of a whole number, multiplying large numbers, dividing large numbers and simple word problems.

- Using 2 and 3 digit numbers, revise the number **combinations that add up to and include 18**, including subtraction combinations, by using appropriate **number strategies**.

  *Example: 74 + 142 = _____, 425 + _____ = 387, 422 - 76 = _____, 235 - _____ = 193*

- Revise the **3x**, **4x**, **6x**, **7x** and **8x multiplication / division facts** and introduce **9x multiplication / division facts**

  *Example: 9 x 2 = _____, 7 x 3 = _____, 3 x _____ = 21* and 35 ÷ 5 = _____

---

The following activities are covered in worksheets 11 to 20:

- **Read** and **write** numbers while **skip counting** in **3's**, **4's**, **5's**, **6's, 7's, 8's** and **9's** in a **forward** or **backward** sequence.

  *Example:* 9, _____, _____, _____, 45, _____, 63, _____, _____, 90, _____, _____, _____, _____, 135 etc.

- **Skip counting** in **3's**, **4's**, **5's**, **6's, 7's, 8's** and **9's write** the number that comes **after**, **before** or **between** the given numbers.

  *Example:* after 32, _____, before _____, 54 between 63, _____, 77

- **One of ELEVEN activities involving ...**
  Ordering whole numbers or decimals, writing number words as numerals, writing numerals as number words, adding numbers in a matrix, exploring place value using money, whole numbers and decimals, rounding numbers to the nearest 10, 100 or 1000 and estimating answers, understanding fractions, finding a fraction of a group of shapes or of a whole number, multiplying large numbers, dividing large numbers and simple word problems.

- Using 2 and 3 digit numbers, revise the number **combinations that add up to and include 18**, including subtraction combinations, by using appropriate **number strategies**.

  *Example: 562 + 86 = _____, 89 + _____ = 163, 562 - 86 = _____, 415 - _____ = 373*

- Revise the **3x**, **4x**, **5x**, **6x**, **7x**, **8x** and **9x** multiplication / division facts.

  *Example: 9 x 8 = _____, 7 x 6 = _____, 8 x _____ = 56* and 54 ÷ 9 = _____

Evaluation Copy
AWS Publications Ltd
All rights reserved

The following activities are covered in worksheets 21 to 30:

- **Read** and **write** numbers while **skip counting** in **4's**, **5's**, **6's**, **7's**, **8's** and **9's** in a **forward** or **backward** sequence.

  *Example:* 4, 8, 12, _____, 20, _____, 28, _____, 36, _____, 44, 48 etc.

- **Skip counting** in **4's**, **5's**, **6's**, **7's**, **8's** and **9's write** the number that comes **after**, **before** or **between** the given numbers.

  *Example:* after 54, _____, before _____, 24 between 30, _____, 42

- **One of FIFTEEN activities involving ...**
  Ordering whole numbers or decimals, adding numbers in a matrix, writing decimals as number words, writing numbers words as numerals, exploring place value using money, whole numbers and decimals, rounding numbers to the nearest 10th, 10, 100 or 1000, finding estimated answers, finding a fraction of a group of shapes, whole numbers or decimals, multiplying large numbers, dividing large numbers, adding and subtracting negative numbers, finding squares or squares roots, converting between commonly used fractions, decimals and percentages, finding percentages of whole numbers and decimals, and simple word problems.

- Using 2 and 3 digit numbers, revise the number **combinations that add up to and include 18**, including subtraction combinations, by using appropriate **number strategies**.

  *Example: Example: 12 + 337 = _____, 47 + _____ = 387, 309 - 76 = _____, 345 - _____ = 297*

- Revise the **3x**, **4x**, **5x**, **6x**, **7x**, **8x** and **9x multiplication / division facts**.

  *Example: 6 x 4 = _____, 8 x _____ = 64, _____ x 9 = 27, 35 ÷ 7 = _____, 48 ÷ _____ = 8, _____ ÷ 9 = 4*

---

The following activities are covered in worksheets 31 to 40:

- **Read** and **write** numbers while **skip counting** in **3's**, **4's**, **5's**, **6's**, **7's**, **8's** and **9's** in a **forward** or **backward** sequence.

  *Example:* 4, 8, 12, _____, 20, _____, 28, _____, 36, _____, 44, 48 etc.

- **Skip counting** in **3's**, **4's**, **5's**, **6's**, **7's**, **8's** and **9's write** the number that comes **after**, **before** or **between** the given numbers.

  *Example:* after 63, _____, before _____, 27 between 30, _____, 42

- **One of TWELVE activities involving ...**
  Ordering whole numbers or decimals, adding numbers in a matrix, exploring place value using whole numbers and decimals, rounding numbers to the nearest 10th, 10, 100 or 1000 and estimating answers, finding a fraction of a group of shapes, whole numbers or decimals, multiplying large whole numbers and decimals, dividing large whole numbers and decimals, adding and subtracting negative numbers, finding squares or squares roots, converting between fractions, decimals and percentages, finding percentages of whole numbers and decimals, and simple word problems.

- Using 3 digit numbers, revise the number **combinations that add up to and include 18**, including subtraction combinations, by using appropriate **number strategies**.

  *Example: Example: 574 + 142 = _____, 355 + _____ = 890, 968 - 531 = _____, 974 - _____ = 695*

- Revise the **3x**, **4x**, **5x**, **6x**, **7x**, **8x** and **9x multiplication / division facts**.

  *Example: 8 x 5 = _____, 7 x _____ = 56, _____ x 9 = 45, 24 ÷ 4 = _____, 48 ÷ _____ = 6, _____ ÷ 7 = 6*

Evaluation Copy
AWS Publications Ltd
All rights reserved

## 1

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **4's**.

4, ____, ____, ____, 20, 24, ____, 32,

____, ____, ____, 48, ____, ____, ____

(2) **Skip counting** in **6's**, **write** the number that comes **after** ...

12, ____ 54, ____ 96, ____

(3) **Write** these numbers in order from **smallest** to **largest**.

| |
|---|
| 102 |
| 0.35 |
| 1.96 |
| 28.4 |
| 0.099 |

____, ____, ____, ____, ____

(4) What is the **value** of the **BOLD** digit in each money total?

Example: In $**4**5 the **4** means **4 dollars**.

$76**2** = ____ $**3**49 = ____

$6**8**0 = ____ $1**6**5 = ____

(5) **Round** these numbers to the **nearest 10**.

528 = ____ 462 = ____

903 = ____ 715 = ____

**Add** and **subtract** these numbers.

(6) 23 + 126 = ____ (11) 199 - 172 = ____

(7) 142 + 39 = ____ (12) 232 - 214 = ____

(8) 65 + 173 = ____ (13) 255 - 162 = ____

(9) ____ + 98 = 252 (14) 412 - ____ = 53

(10) 16 + ____ = 194 (15) ____ - 89 = 384

**Multiplying** and **dividing** in 3's, 4's, 6's, 7's & 8's

(16) 3 x 3 = ____ (21) 3 ÷ 3 = ____

(17) 5 x 4 = ____ (22) 36 ÷ 4 = ____

(18) 6 x 10 = ____ (23) 12 ÷ 6 = ____

(19) 7 x ____ = 28 (24) 49 ÷ ____ = 7

(20) ____ x 8 = 48 (25) ____ ÷ 8 = 8

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 2

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **6's**.

90, ____, ____, 72, ____, 60, ____, 48,

____, ____, 30, ____, ____, ____, 6

(2) **Skip counting** in **7's**, **write** the number that comes **before** ...

____, 21 ____, 112 ____, 56

(3) **Write** these numerals as **number words**.

305 _____

2709 _____

(4) **Add** all the numbers in this matrix.

| | | | |
|---|---|---|---|
| 560 | 18 | 74 | |
| 9 | 236 | 530 | |
| 90 | 6 | 840 | |
| | | | Total |

(5) **Multiplying** large numbers.

| 647 | 582 | 901 |
|---|---|---|
| x 3 | x 4 | x 5 |
| | | |

**Add** and **subtract** these numbers.

(6) 172 + 27 = ____ (11) 269 - 11 = ____

(7) 18 + 214 = ____ (12) 194 - 16 = ____

(8) 162 + 93 = ____ (13) 216 - 62 = ____

(9) ____ + 359 = 412 (14) 473 - ____ = 384

(10) 329 + ____ = 380 (15) ____ - 347 = 78

**Multiplying** and **dividing** in 3's, 4's, 6's, 7's & 8's

(16) 3 x 5 = ____ (21) 27 ÷ 3 = ____

(17) 10 x 4 = ____ (22) 8 ÷ 4 = ____

(18) 6 x 4 = ____ (23) 42 ÷ 6 = ____

(19) 7 x ____ = 42 (24) 56 ÷ ____ = 7

(20) ____ x 8 = 8 (25) ____ ÷ 8 = 3

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 3

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **7's**.

7, ____, ____, ____, 35, ____, ____, ____,

____, 70, ____, ____, 91, ____, 105

(2) **Skip counting** in **8's**, **write** the number that is **between** ...

16 ____ 32, 56 ____ 72, 120 ____ 136

(3) **Write** these number words as **3** or **4-digit numerals**.

nine point five three four _____

four thousand and seven _____

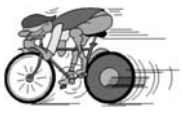
(4) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4**5**2 the place value is **10's** and it means **50**.

6**8**2 = _____ = _____ **5**32 = _____ = _____

19**3** = _____ = _____ 7**6**1 = _____ = _____

(5) In the 8000m bike race, riders have already covered 3750m. How far to the finish?



_____ - _____ = _____

**Add** and **subtract** these numbers.

(6) 11 + 258 = ____ (11) 368 - 332 = ____

(7) 178 + 16 = ____ (12) 380 - 329 = ____

(8) 62 + 154 = ____ (13) 213 - 141 = ____

(9) ____ + 89 = 473 (14) 425 - ____ = 78

(10) 16 + ____ = 182 (15) ____ - 64 = 399

**Multiplying** and **dividing** in 3's, 4's, 6's, 7's & 8's

(16) 3 x 10 = ____ (21) 6 ÷ 3 = ____

(17) 4 x 4 = ____ (22) 28 ÷ 4 = ____

(18) 6 x 6 = ____ (23) 48 ÷ 6 = ____

(19) 7 x ____ = 7 (24) 21 ÷ ____ = 7

(20) ____ x 8 = 72 (25) ____ ÷ 8 = 5

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

Evaluation Copy
AWS Publications Ltd
All rights reserved

## 4

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **8's**.

8, ____, 24, ____, ____, ____, ____, ____,

72, ____, ____, 96, ____, ____, 120

(2) **Skip counting** in 9's, **write** the number that comes **after** ...

27, _____ 72, _____ 126, _____

(3) **Write** these decimals as **number words**.

3.254 _____

14.083 _____

(4) What is the **value** of the **BOLD** digit in each money total?

Example: In $4.1**5** the **5** means **5 cents**.

$3.**5**0 = _____ $3.6**5** = _____

$**1**8.20 = _____ $9.**2**8 = _____

(5) **Round** these numbers to the **nearest 100**.

529 = _____ 948 = _____

386 = _____ 750 = _____

**Add** and **subtract** these numbers.

(6) 332 + 36 = ____ (11) 193 - 51 = ____

(7) 51 + 329 = ____ (12) 182 - 16 = ____

(8) 141 + 72 = ____ (13) 337 - 83 = ____

(9) ____ + 347 = 425 (14) 463 - ____ = 399

(10) 39 + ____ = 181 (15) ____ - 98 = 154

**Multiplying** and **dividing** in 3's, 4's, 6's, 7's & 8's

(16) 3 x 4 = ____ (21) 21 ÷ 3 = ____

(17) 6 x 4 = ____ (22) 32 ÷ 4 = ____

(18) 6 x 1 = ____ (23) 18 ÷ 6 = ____

(19) 7 x ____ = 63 (24) 35 ÷ ____ = 7

(20) ____ x 8 = 16 (25) ____ ÷ 8 = 10

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

## 5

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

9, ____, ____, 36, ____, ____, ____, 72,

____, 90, 99, ____, ____, ____, ____

(2) **Skip counting** in **4's**, **write** the number that comes **before** ...

____ , 36 ____ , 12 ____ , 64

(3) **Write** these numbers in order from **largest** to **smallest**.

| |
|---|
| 3.6 |
| 19.4 |
| 0.069 |
| 304 |
| 0.95 |

____, ____, ____, ____, ____

(4) **Write** these number words as **decimal numerals**.

seven point three two four ____

twenty-five point zero nine eight ____

(5) A running race is two laps long. If lap 1 is 1250m long and lap 2 is 1450m, how far is the race?

____ + ____ = ____

**Add** and **subtract** these numbers.

(6) 51 + 142 = ____

(7) 166 + 16 = ____

(8) 83 + 254 = ____

(9) ____ + 64 = 463

(10) 214 + ____ = 232

(11) 149 - 23 = ____

(12) 181 - 39 = ____

(13) 238 - 65 = ____

(14) 252 - ____ = 154

(15) ____ - 359 = 53

**Multiplying** and **dividing** in 3's, 4's, 6's, 7's & 8's

(16) 3 x 6 = ____

(17) 1 x 4 = ____

(18) 6 x 9 = ____

(19) 7 x ____ = 14

(20) ____ x 8 = 56

(21) 24 ÷ 3 = ____

(22) 12 ÷ 4 = ____

(23) 30 ÷ 6 = ____

(24) 70 ÷ ____ = 7

(25) ____ ÷ 8 = 4

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 6

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **9's**.

135, ____, ____, 108, ____, ____, 72

____, ____, 45, ____, ____, ____, 9

(2) **Skip counting** in **9's**, **write** the number that is **between** ...

45 ____ 63, 99 ____ 117, 18 ____ 36

(3) What do these fractions mean?

$\frac{2}{5}$ means ____ out of ____

$\frac{3}{8}$ means ____ out of ____

(4) **Add** all the numbers in this matrix.

| | | | |
|---|---|---|---|
| 8 | 25 | 150 | |
| 450 | 900 | 30 | |
| 70 | 5 | 680 | |
| | | | Total |

(5) **Round** these numbers to the **nearest 1000**.

4620 = ____ 5469 = ____

9325 = ____ 7840 = ____

**Add** and **subtract** these numbers.

(6) 241 + 17 = ____

(7) 72 + 328 = ____

(8) 191 + 76 = ____

(9) ____ + 248 = 343

(10) 317 + ____ = 404

(11) 338 - 26 = ____

(12) 332 - 78 = ____

(13) 208 - 34 = ____

(14) 491 - ____ = 393

(15) ____ - 283 = 99

**Multiplying** and **dividing** by **9's**.

(16) 9 x 3 = ____

(17) 5 x 9 = ____

(18) 9 x 10 = ____

(19) 9 x ____ = 36

(20) ____ x 9 = 54

(21) 9 ÷ 9 = ____

(22) 81 ÷ 9 = ____

(23) 18 ÷ 9 = ____

(24) 63 ÷ ____ = 9

(25) ____ ÷ 9 = 8

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 7

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

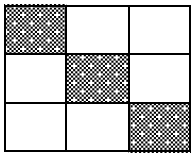
_____, _____, 27, _____, _____, 54, _____, _____,

81, _____, _____, _____, 117, 126, _____

(2) **Skip counting** in **7's**, **write** the number that comes **after** ...

63, _____ 14, _____ 98, _____

(3) What fraction of each shape is shaded?



_____ _____

(4) **Round** these numbers to the **nearest 10** or **100** and then work out an **estimated answer**.

53 + 69 + 193 = _____ + _____ + _____ = _____

327 - 189 = _____ - _____ = _____

(5) **Multiplying** large numbers.

Example: 21 x 3 = (20 x 3) + (1 x 3) = 60 + 3 = 63

69 x 7 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 26 + 312 = _____ (11) 201 - 161 = _____

(7) 254 + 78 = _____ (12) 404 - 317 = _____

(8) 34 + 174 = _____ (13) 366 - 274 = _____

(9) _____ + 98 = 491 (14) 382 - _____ = 99

(10) 53 + _____ = 401 (15) _____ - 86 = 275

**Multiplying** and **dividing** by **9's**.

(16) 9 x 5 = _____ (21) 81 ÷ 9 = _____

(17) 10 x 9 = _____ (22) 18 ÷ 9 = _____

(18) 9 x 4 = _____ (23) 63 ÷ 9 = _____

(19) 9 x _____ = 54 (24) 72 ÷ _____ = 9

(20) _____ x 9 = 9 (25) _____ ÷ 9 = 3

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 8

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count backwards in **4's**.

60, _____, _____, 48, _____, _____, 36, _____,

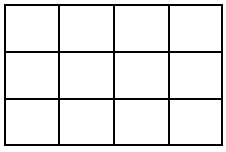
_____, _____, _____, _____, 12, 8, _____

(2) **Skip counting** in **9's**, **write** the number that comes **before** ...

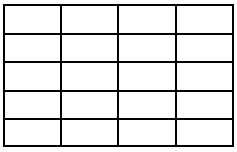
_____, 63 _____, 36 _____, 117

(3) **Shade** in part of each diagram to show you understand these fractions.

$\frac{3}{4}$



$\frac{4}{5}$



(4) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4**5**2 the place value is **10's** and it means **50**.

270 = _____ = _____ **3**415 = _____ = _____

4**1**9 = _____ = _____ **5**87 = _____ = _____

(5) **Dividing** large numbers.

Example: 95 ÷ 5 = (50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

108 ÷ 6 = (_____ ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 161 + 40 = _____ (11) 257 - 30 = _____

(7) 87 + 317 = _____ (12) 401 - 53 = _____

(8) 274 + 92 = _____ (13) 207 - 42 = _____

(9) _____ + 283 = 382 (14) 361 - _____ = 275

(10) 415 + _____ = 472 (15) _____ - 396 = 87

**Multiplying** and **dividing** by **9's**.

(16) 9 x 10 = _____ (21) 18 ÷ 9 = _____

(17) 4 x 9 = _____ (22) 63 ÷ 9 = _____

(18) 9 x 6 = _____ (23) 72 ÷ 9 = _____

(19) 9 x _____ = 9 (24) 27 ÷ _____ = 9

(20) _____ x 9 = 81 (25) _____ ÷ 9 = 5

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# 9

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

_____, _____, 27, _____, _____, _____, 63, _____,

81, _____, _____, 108, _____, 126, _____

(2) **Skip counting** in **8's**, **write** the number that is **between** ...

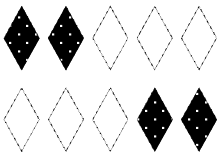
32 _____ 48, 128 _____ 144, 72 _____ 88

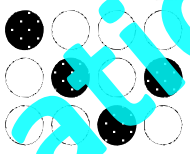
(3) **Write** these numbers in order from **smallest** to **largest**.

| |
|---|
| 0.48 |
| 2.94 |
| 0.078 |
| 103 |
| 32.7 |

_____ , _____ , _____ , _____ , _____

(4) What fraction of each group of shapes is shaded?





_____ _____

(5) **Find** each **fraction** of these whole numbers.

$\frac{1}{4}$ of 36 = _____ $\frac{2}{5}$ of 20 = _____

$\frac{1}{3}$ of 27 = _____ $\frac{3}{8}$ of 40 = _____

**Add** and **subtract** these numbers.

(6) 30 + 227 = _____ (11) 189 - 136 = _____

(7) 348 + 53 = _____ (12) 472 - 415 = _____

(8) 42 + 165 = _____ (13) 345 - 263 = _____

(9) _____ + 86 = 361 (14) 483 - _____ = 87

(10) 328 + _____ = 400 (15) _____ - 248 = 95

**Multiplying** and **dividing** by **9's**.

(16) 9 x 4 = _____ (21) 63 ÷ 9 = _____

(17) 6 x 9 = _____ (22) 72 ÷ 9 = _____

(18) 9 x 1 = _____ (23) 27 ÷ 9 = _____

(19) 9 x _____ = 81 (24) 45 ÷ _____ = 9

(20) _____ x 9 = 18 (25) _____ ÷ 9 = 10

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 10

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count backwards in **6's**.

90, _____, 78, _____, _____, 60, _____, _____,

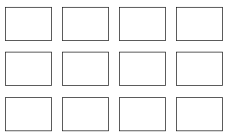
_____, _____, 30, _____, _____, _____, 6

(2) **Skip counting** in **9's**, **write** the number that comes **after** ...

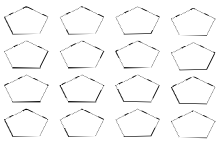
72, _____ 18, _____ 135, _____

(3) **Shade** in part of each group of shapes to show you understand these fractions.

$\frac{5}{6}$



$\frac{5}{8}$



(4) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4.**5**2 the place value is $^{1}/_{10}$'s and it means $^{5}/_{10}$.

4.**1**2 = _____ = _____ 4.**1**7 = _____ = _____

9.6**2** = _____ = _____ 3.6**5** = _____ = _____

(5) **Dividing** large numbers.

3)372 6)984

4)624 7)763

**Add** and **subtract** these numbers.

(6) 136 + 53 = _____ (11) 258 - 241 = _____

(7) 57 + 415 = _____ (12) 400 - 328 = _____

(8) 263 + 82 = _____ (13) 267 - 191 = _____

(9) _____ + 396 = 483 (14) 343 - _____ = 95

(10) 78 + _____ = 332 (15) _____ - 98 = 393

**Multiplying** and **dividing** by **9's**.

(16) 9 x 6 = _____ (21) 72 ÷ 9 = _____

(17) 1 x 9 = _____ (22) 27 ÷ 9 = _____

(18) 9 x 9 = _____ (23) 45 ÷ 9 = _____

(19) 9 x _____ = 18 (24) 90 ÷ _____ = 9

(20) _____ x 9 = 63 (25) _____ ÷ 9 = 4

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# Number Knowledge Progress Assessment 1

Practical / oral assessment: **Ask** each question as outlined below. **Record** the results by circling yes or

| | Practical / Oral Questions (Supply your child with some paper) | Result (circle) |
|---|---|---|
| 1 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **recite** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 2 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **write** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 3 | **Write** up to **10** 2, 3, 4 or 5 digit numbers and ask your child to **round** each number to the **nearest 10, 100** or **1000**. | yes / no |
| 4 | **Addition and subtraction numeracy facts.**<br><br>Tick each correct answer. | yes / no |
| 5 | **4x, 6x, 7x, 8x & 9x multiplication and division facts.**<br><br>Ask these facts one of several ways, as ...<br><br>"What does 4 multiplied by 9 equal?"<br><br>"What does 36 divided by 4 equal?"<br><br>"What number multiplied by 4 gives you an answer of 36?" | yes / no |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 5 + 35 = 40 | | 43 - 8 = 35 | | 2 + 24 = 26 | | 24 - 2 = 22 | |
| 37 - 6 = 31 | | 34 + 4 = 38 | | 30 - 9 = 21 | | 8 + 17 = 25 | |
| 17 + 6 = 23 | | 23 - 4 = 19 | | 15 + 8 = 23 | | 25 - 7 = 18 | |
| 48 - 9 = 39 | | 9 + 39 = 48 | | 23 - 6 = 17 | | 2 + 37 = 39 | |
| 3 + 23 = 26 | | 29 - 6 = 23 | | 4 + 25 = 29 | | 22 - 3 = 19 | |
| 44 - 8 = 36 | | 9 + 13 = 22 | | 32 - 6 = 26 | | 16 + 6 = 22 | |
| 6 + 18 = 24 | | 38 - 9 = 29 | | 14 + 7 = 21 | | 37 - 2 = 35 | |
| 28 - 3 = 25 | | 23 + 7 = 30 | | 18 + 2 = 16 | | 19 + 6 = 25 | |
| 8 + 18 = 26 | | 44 - 6 = 38 | | 8 + 16 = 24 | | 21 - 7 = 14 | |
| 25 - 6 = 19 | | 13 + 8 = 21 | | 36 - 8 = 28 | | 13 + 4 = 17 | |
| 9 + 14 = 23 | | 36 - 5 = 31 | | 7 + 31 = 38 | | 29 - 8 = 21 | |
| 23 - 2 = 21 | | 12 + 9 = 21 | | 32 - 5 = 27 | | 28 + 2 = 30 | |
| 31 + 3 = 34 | | 41 - 8 = 33 | | 19 + 7 = 26 | | 21 - 9 = 12 | |
| 25 - 2 = 23 | | 7 + 17 = 24 | | 30 - 6 = 24 | | 4 + 18 = 22 | |
| 7 + 15 = 22 | | 31 - 6 = 25 | | 15 + 6 = 21 | | 32 - 8 = 24 | |
| 26 - 7 = 19 | | 19 + 9 = 28 | | 24 - 7 = 17 | | 44 + 1 = 45 | |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 10 x 6 = 60 | | 4 x 9 = 36 | | 5 x 8 = 40 | | 7 x 7 = 49 | |
| 16 ÷ 8 = 2 | | 21 ÷ 7 = 3 | | 54 ÷ 6 = 9 | | 12 ÷ 4 = 3 | |
| 7 x 8 = 56 | | 3 x 6 = 18 | | 4 x 7 = 28 | | 8 x 9 = 72 | |
| 24 ÷ 4 = 6 | | 81 ÷ 9 = 9 | | 70 ÷ 7 = 10 | | 40 ÷ 4 = 10 | |
| 8 x 8 = 64 | | 7 x 5 = 35 | | 8 x 6 = 48 | | 4 x 4 = 16 | |
| 30 ÷ 6 = 5 | | 32 ÷ 4 = 8 | | 24 ÷ 8 = 3 | | 14 ÷ 7 = 2 | |
| 9 x 3 = 27 | | 2 x 8 = 16 | | 7 x 3 = 21 | | 9 x 6 = 54 | |
| 63 ÷ 7 = 9 | | 42 ÷ 6 = 7 | | 20 ÷ 4 = 6 | | 36 ÷ 6 = 6 | |
| 10 x 4 = 40 | | 4 x 6 = 24 | | 10 x 8 = 80 | | 7 x 10 = 70 | |
| 72 ÷ 9 = 8 | | 40 ÷ 8 = 5 | | 54 ÷ 9 = 6 | | 60 ÷ 6 = 10 | |
| 7 x 2 = 14 | | 5 x 6 = 30 | | 4 x 8 = 32 | | 3 x 8 = 24 | |
| 18 ÷ 6 = 3 | | 28 ÷ 4 = 7 | | 72 ÷ 8 = 9 | | 56 ÷ 7 = 8 | |
| 6 x 6 = 36 | | 7 x 9 = 63 | | 7 x 6 = 42 | | 4 x 5 = 20 | |
| 35 ÷ 7 = 5 | | 48 ÷ 6 = 8 | | 16 ÷ 4 = 4 | | 64 ÷ 8 = 8 | |
| 4 x 3 = 12 | | 2 x 9 = 18 | | 9 x 5 = 45 | | 4 x 9 = 36 | |
| 36 ÷ 4 = 9 | | 80 ÷ 8 = 10 | | 49 ÷ 7 = 7 | | 63 ÷ 9 = 7 | |

Evaluation Copy
AWS Publications Ltd
All rights reserved



Copyright © 2007 AWS Publications Ltd



It is **illegal** to photocopy this page

## 11

Term: ____ Week: ____ AWS

(1) **Write** in the missing numbers as you skip count in **3's**.

3, ____, ____, ____, 15, ____, 21, ____,

____, ____, 33, ____, 39, ____, 45, ____

(2) **Skip counting** in **4's**, **write** the number that comes **before** ...

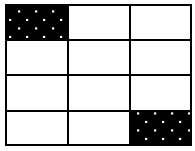
____ , 16 ____ , 40 ____ , 52

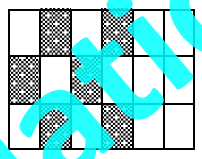
(3) **Write** these numerals as **number words**.

506 _____

4019 _____

(4) What fraction of each shape is shaded?





(5) **Round** these numbers to the **nearest 10**.

686 = _____ 728 = _____

143 = _____ 935 = _____

**Add** and **subtract** these numbers.

(6) 13 + 154 = ____ (11) 269 - 42 = ____

(7) 231 + 27 = ____ (12) 128 - 15 = ____

(8) 73 + 324 = ____ (13) 281 - 23 = ____

(9) ____ + 76 = 228 (14) 427 - ____ = 336

(10) 91 + ____ = 395 (15) ____ - 34 = 174

**Multiplying** and **dividing** in 3's, 4's, 5's, 7's & 9's.

(16) 3 x 3 = ____ (21) 3 ÷ 3 = ____

(17) 5 x 4 = ____ (22) 36 ÷ 4 = ____

(18) 5 x 10 = ____ (23) 10 ÷ 5 = ____

(19) 7 x ____ = 28 (24) 49 ÷ ____ = 7

(20) ____ x 9 = 54 (25) ____ ÷ 9 = 8

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 12

Term: ____ Week: ____ AWS

(1) **Write** in the missing numbers as you skip count backwards in **4's**.

60, ____, 52, ____, ____, ____, 36, ____

____, 24, ____, ____, ____, 8, ____

(2) **Skip counting** in **5's**, **write** the number that is **between** ...

15 ____ 25, 40 ____ 50, 75 ____ 85

(3) **Write** these number words as **3** or **4-digit numerals**.

six hundred and ninety-seven _____

eight thousand and fifteen _____

(4) **Add** all the numbers in this matrix.

| | | | |
|---|---|---|---|
| 53 | 9 | 60 | |
| 320 | 70 | 54 | |
| 81 | 40 | 710 | |
| | | | Total |

(5) If Jamie paid $1199 and Hayley paid $1150 for a mountain bike, how much did they spend altogether?

_____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 42 + 227 = ____ (11) 147 - 15 = ____

(7) 113 + 15 = ____ (12) 395 - 91 = ____

(8) 23 + 258 = ____ (13) 303 - 54 = ____

(9) ____ + 91 = 427 (14) 208 - ____ = 174

(10) 21 + ____ = 183 (15) ____ - 65 = 163

**Multiplying** and **dividing** in 3's, 4's, 5's, 7's & 9's.

(16) 3 x 5 = ____ (21) 27 ÷ 3 = ____

(17) 10 x 4 = ____ (22) 8 ÷ 4 = ____

(18) 5 x 4 = ____ (23) 35 ÷ 5 = ____

(19) 7 x ____ = 42 (24) 56 ÷ ____ = 7

(20) ____ x 9 = 9 (25) ____ ÷ 9 = 3

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 13

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **5's**.

5, ____, ____, 20, ____, 30, ____, ____,

45, 50, ____, ____, ____, 70, ____, 80

(2) **Skip counting** in **7's**, **write** the number that comes **after** ...

35, _____ 70, _____ 105, _____

(3) **Write** these decimals as **number words**.

25.019 _____

6.8304 _____

(4) What is the **value** of the **BOLD** digit in each money total?

Example: In $**4**5 the **4** means **4 dollars**.

$23**8** = _____ $**6**200 = _____

$9**7**4 = _____ $49**2**5 = _____

(5) **Round** these numbers to the **nearest 100**.

563 = _____ 450 = _____

949 = _____ 789 = _____

**Add** and **subtract** these numbers.

(6) 15 + 132 = ____ (11) 389 - 41 = ____

(7) 304 + 91 = ____ (12) 183 - 21 = ____

(8) 54 + 249 = ____ (13) 294 - 16 = ____

(9) ____ + 34 = 208 (14) 228 - ____ = 163

(10) 64 + ____ = 185 (15) ____ - 73 = 344

**Multiplying** and **dividing** in 3's, 4's, 5's, 7's & 9's.

(16) 3 x 10 = ____ (21) 6 ÷ 3 = ____

(17) 4 x 4 = ____ (22) 28 ÷ 4 = ____

(18) 5 x 6 = ____ (23) 40 ÷ 5 = ____

(19) 7 x ____ = 7 (24) 21 ÷ ____ = 7

(20) ____ x 9 = 81 (25) ____ ÷ 9 = 5

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 14

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **7's**.

112, 105, ____, ____, 84, ____, 70, ____,

____, ____, 42, ____, ____, ____, 14, ____

(2) **Skip counting** in **9's**, **write** the number that comes **before** ...

____, 45 ____, 144 ____, 81

(3) **Write** these number words as **decimal numerals**.

thirty-two point three two seven _____

nineteen point zero nine eight _____

(4) **Shade** in part of each diagram to show you understand these fractions.

$\frac{3}{5}$ $\frac{3}{8}$

(5) Jason has saved $3000. If he buys a new computer for $1795, how much money does he have left?

_____ - _____ = _____

**Add** and **subtract** these numbers.

(6) 41 + 348 = ____ (11) 266 - 52 = ____

(7) 162 + 21 = ____ (12) 185 - 64 = ____

(8) 16 + 278 = ____ (13) 200 - 38 = ____

(9) ____ + 65 = 228 (14) 417 - ____ = 344

(10) 27 + ____ = 258 (15) ____ - 76 = 152

**Multiplying** and **dividing** in 3's, 4's, 5's, 7's & 9's.

(16) 3 x 4 = ____ (21) 21 ÷ 3 = ____

(17) 6 x 4 = ____ (22) 32 ÷ 4 = ____

(18) 5 x 1 = ____ (23) 15 ÷ 5 = ____

(19) 7 x ____ = 63 (24) 35 ÷ ____ = 7

(20) ____ x 9 = 18 (25) ____ ÷ 9 = 10

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# 15

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

9, ____, ____, ____, 45, ____, 63, ____,

____, 90, ____, ____, ____, ____, 135

(2) **Skip counting** in **3's**, **write** the number that is **between** ...

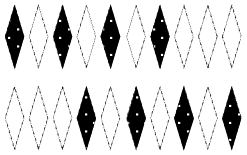
12 ____ 18, 54 ____ 60, 36 ____ 42

(3) **Write** these numbers in order from **largest** to **smallest**.

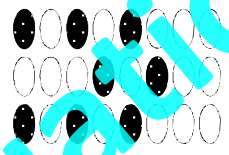
| |
|---|
| 14.6 |
| 0.95 |
| 2.07 |
| 134 |
| 0.099 |

____, ____, ____, ____, ____

(4) What fraction of each group of shapes is shaded?



____



____

(5) **Multiplying** large numbers.

Example: 18 x 3 = (20 x 3) - (2 x 3) = 60 - 6 = 54

87 x 9 = (____ x ____) - (____ x ____)

= ____ - ____ = ____

**Add** and **subtract** these numbers.

(6) 52 + 214 = ____

(7) 121 + 64 = ____

(8) 38 + 162 = ____

(9) ____ + 73 = 417

(10) 15 + ____ = 128

(11) 167 - 13 = ____

(12) 258 - 27 = ____

(13) 397 - 73 = ____

(14) 228 - ____ = 152

(15) ____ - 91 = 336

**Multiplying** and **dividing** in 3's, 4's, 5's, 7's & 9's.

(16) 3 x 6 = ____

(17) 1 x 4 = ____

(18) 5 x 9 = ____

(19) 7 x ____ = 14

(20) ____ x 9 = 63

(21) 24 ÷ 3 = ____

(22) 12 ÷ 4 = ____

(23) 25 ÷ 5 = ____

(24) 70 ÷ ____ = 7

(25) ____ ÷ 9 = 4

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 16

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count in **3's**.

3, ____, ____, ____, 15, ____, ____, 24,

____, ____, 36, 39, ____, ____

(2) **Skip counting** in **4's**, **write** the number that comes **after** ...

24, ____ 72, ____ 48, ____

(3) What is the **value** of the **BOLD** digit in each money total?

Example: In $4.**1**5 the **5** means **5 cents**.

$3.**8**0 = ____ $9.2**5** = ____

$6**9**.20 = ____ $8.**7**4 = ____

(4) **Dividing** large numbers.

6)972 8)760

7)903 9)783

(5) **Round** these numbers to the **nearest 1000**.

7850 = ____ 6720 = ____

2497 = ____ 1500 = ____

**Add** and **subtract** these numbers.

(6) 37 + 211 = ____

(7) 373 + 60 = ____

(8) 17 + 187 = ____

(9) ____ + 13 = 272

(10) 25 + ____ = 347

(11) 299 - 64 = ____

(12) 157 - 36 = ____

(13) 383 - 35 = ____

(14) 258 - ____ = 186

(15) ____ - 72 = 265

**Multiplying** and **dividing** in 3's, 4's, 6's, 8's & 9's.

(16) 6 x 3 = ____

(17) 5 x 8 = ____

(18) 9 x 10 = ____

(19) 3 x ____ = 12

(20) ____ x 4 = 24

(21) 6 ÷ 6 = ____

(22) 72 ÷ 8 = ____

(23) 18 ÷ 9 = ____

(24) 21 ÷ ____ = 3

(25) ____ ÷ 4 = 8

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# 17

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **4's**.

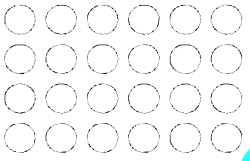
60, ____, ____, 48, ____, ____, 36, ____,

____, ____, ____, 16, ____, ____, 4

(2) **Skip counting** in **6's**, **write** the number that comes **before** ...

____ , 36 ____ , 78 ____ , 24

(3) **Shade** in part of each group of shapes to show you understand these fractions.

$\frac{3}{8}$ $\frac{3}{4}$ 

(4) **Round** these numbers to the **nearest 10** or **100** and then work out an **estimated answer**.

89 + 42 + 163 = ____ + ____ + ____ = ____

1453 - 867 = ____ - ____ = ____

(5) **Dividing** large numbers.

Example: 95 ÷ 5 = (50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

144 ÷ 8 = (____ ÷ ____) + (____ ÷ ____)

= ____ + ____ = ____

**Add** and **subtract** these numbers.

(6) 64 + 235 = ____ (11) 178 - 40 = ____

(7) 121 + 36 = ____ (12) 347 - 25 = ____

(8) 35 + 348 = ____ (13) 307 - ____ = ____

(9) ____ + 72 = 258 (14) 337 - ____ = 265

(10) 26 + ____ = 277 (15) ____ - 92 = 154

**Multiplying** and **dividing** in 3's, 4's, 6's, 8's & 9's.

(16) 6 x 5 = ____ (21) 54 ÷ 6 = ____

(17) 10 x 8 = ____ (22) 16 ÷ 8 = ____

(18) 9 x 4 = ____ (23) 63 ÷ 9 = ____

(19) 3 x ____ = 18 (24) 24 ÷ ____ = 3

(20) ____ x 4 = 4 (25) ____ ÷ 4 = 3

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 18

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **6's**.

6, ____, ____, 24, ____, ____, ____, ____,

54, ____, ____, 72, ____, ____, ____

(2) **Skip counting** in **8's**, **write** the number that is **between** ...

32 ____ 48, 104 ____ 120, 64 ____ 80

(3) **Find** each **fraction** of these whole numbers.

$\frac{1}{3}$ of 27 = ____ $\frac{3}{8}$ of 40 = ____

$\frac{1}{5}$ of 55 = ____ $\frac{4}{7}$ of 49 = ____

(4) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4**5**2 the place value is **10's** and it means **50**.

176 = ____ = ____ **9**510 = ____ = ____

2**4**8 = ____ = ____ 5**4**23 = ____ = ____

(5) **Multiplying** large numbers.

| 906 | 254 | 173 |
|---|---|---|
| x 6 | x 7 | x 8 |
| | | |

**Add** and **subtract** these numbers.

(6) 40 + 138 = ____ (11) 349 - 47 = ____

(7) 322 + 25 = ____ (12) 277 - 26 = ____

(8) 48 + 259 = ____ (13) 191 - 75 = ____

(9) ____ + 72 = 337 (14) 246 - ____ = 154

(10) 13 + ____ = 396 (15) ____ - 73 = 193

**Multiplying** and **dividing** in 3's, 4's, 6's, 8's & 9's.

(16) 6 x 10 = ____ (21) 6 x 4 = ____

(17) 4 x 8 = ____ (22) 6 x 8 = ____

(18) 9 x 6 = ____ (23) 9 x 1 = ____

(19) 3 x ____ = 3 (24) 3 x ____ = 27

(20) ____ x 4 = 36 (25) ____ x 4 = 8

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 19

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **8's**.

120, _____, _____, 96, _____, _____, _____,

_____, _____, 48, _____, _____, 24, _____, 8

(2) **Skip counting** in **9's**, **write** the number that comes **after** ...

72, _____ 36, _____ 117, _____

(3) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4.**5**2 the place value is $^{1}/_{10}$'s and it means $^{5}/_{10}$.

4.**1**2 = _____ = _____ 4.**1**7 = _____ = _____

9.6**2** = _____ = _____ 3.**6**5 = _____ = _____

(4) **Find** the **percentage** of these numbers.

10% of 80 = _____ 25% of 40 = _____

50% of 48 = _____ $33\frac{1}{3}$% of 90 = _____

(5) Find the **square** of these numbers.

Example: $3^2 = 3 \times 3 = 9$

$6^2$ = _____ $4^2$ = _____

$9^2$ = _____ $10^2$ = _____

**Add** and **subtract** these numbers.

(6) 47 + 302 = _____ (11) 249 - 35 = _____

(7) 251 + 26 = _____ (12) 396 - 13 = _____

(8) 75 + 116 = _____ (13) 302 - 24 = _____

(9) _____ + 92 = 246 (14) 266 - _____ = 193

(10) 60 + _____ = 433 (15) _____ - 13 = 259

**Multiplying** and **dividing** in 3's, 4's, 6's, 8's & 9's.

(16) 6 x 4 = _____ (21) 42 ÷ 6 = _____

(17) 6 x 8 = _____ (22) 64 ÷ 8 = _____

(18) 9 x 1 = _____ (23) 27 ÷ 9 = _____

(19) 3 x _____ = 27 (24) 15 ÷ _____ = 3

(20) _____ x 4 = 8 (25) _____ ÷ 4 = 10

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 20

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

9, _____, _____, 36, _____, _____, 63, _____,

_____, _____, _____, _____, 117, _____, 135

(2) **Skip counting** in **3's**, **write** the number that comes **before** ...

_____, 24 _____, 51 _____, 42

(3) Find the **square root** of these numbers.

Example: $\sqrt{9} = 3$ as $3 \times 3 = 9$

$\sqrt{25}$ = _____ $\sqrt{81}$ = _____

$\sqrt{49}$ = _____ $\sqrt{100}$ = _____

(4) **Fill in** the missing fractions, decimals or percentages.

| fraction | decimal | percentage |
|---|---|---|
| $\frac{1}{2}$ | | |
| | 0.25 | |
| | | 75% |

(5) **Round** these numbers to the **nearest 10th**.

2.56 = _____ 19.48 = _____

78.34 = _____ 23.45 = _____

**Add** and **subtract** these numbers.

(6) 35 + 214 = _____ (11) 248 - 37 = _____

(7) 383 + 13 = _____ (12) 433 - 60 = _____

(8) 24 + 278 = _____ (13) 204 - 17 = _____

(9) _____ + 73 = 266 (14) 272 - _____ = 259

(10) 36 + _____ = 157 (15) _____ - 72 = 186

**Multiplying** and **dividing** in 3's, 4's, 6's, 8's & 9's.

(16) 6 x 6 = _____ (21) 48 ÷ 6 = _____

(17) 1 x 8 = _____ (22) 24 ÷ 8 = _____

(18) 9 x 9 = _____ (23) 45 ÷ 9 = _____

(19) 3 x _____ = 6 (24) 30 ÷ _____ = 3

(20) _____ x 4 = 28 (25) _____ ÷ 4 = 4

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# Number Knowledge Progress Assessment 2

Practical / oral assessment: **Ask** each question as outlined below. **Record** the results by circling yes or

| | Practical / Oral Questions (Supply your child with some paper) | Result (circle) |
|---|---|---|
| 1 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **recite** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 2 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **write** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 3 | **Write** up to **10** 2, 3, 4 or 5 digit numbers and ask your child to **round** each number to the **nearest 10, 100** or **1000**. | yes / no |
| 4 | **Addition and subtraction numeracy facts.**<br><br>Tick each correct answer. | yes / no |
| 5 | **4x, 6x, 7x, 8x & 9x multiplication and division facts.**<br><br>Ask these facts one of several ways, as ...<br><br>"What does 4 multiplied by 9 equal?"<br><br>"What does 36 divided by 4 equal?"<br><br>"What number multiplied by 4 gives you an answer of 36?" | yes / no |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 36 - 8 = 28 | | 13 + 4 = 17 | | 25 - 6 = 19 | | 13 + 8 = 21 | |
| 7 + 31 = 38 | | 29 - 8 = 21 | | 9 + 14 = 23 | | 36 - 5 = 31 | |
| 32 - 5 = 27 | | 28 + 2 = 30 | | 23 - 2 = 21 | | 12 + 9 = 21 | |
| 19 + 7 = 26 | | 21 - 9 = 12 | | 31 + 3 = 34 | | 41 - 8 = 33 | |
| 30 - 6 = 24 | | 4 + 18 = 22 | | 25 - 2 = 23 | | 7 + 17 = 24 | |
| 15 + 6 = 21 | | 32 - 8 = 24 | | 7 + 15 = 22 | | 31 - 6 = 25 | |
| 24 - 7 = 17 | | 44 + 1 = 45 | | 26 - 7 = 19 | | 49 + 9 = 58 | |
| 2 + 24 = 26 | | 24 - 2 = 22 | | 5 + 35 = 40 | | 43 - 8 = 35 | |
| 30 - 9 = 21 | | 8 + 17 = 25 | | 37 - 6 = 31 | | 34 + 4 = 38 | |
| 15 + 8 = 23 | | 25 - 7 = 18 | | 17 + 6 = 23 | | 23 - 4 = 19 | |
| 23 - 6 = 17 | | 2 + 37 = 39 | | 48 - 9 = 39 | | 9 + 19 = 28 | |
| 4 + 25 = 29 | | 22 - 3 = 19 | | 3 + 23 = 26 | | 29 - 6 = 23 | |
| 32 - 6 = 26 | | 16 + 6 = 22 | | 44 - 8 = 36 | | 9 + 13 = 22 | |
| 14 + 7 = 21 | | 37 - 2 = 35 | | 6 + 18 = 24 | | 38 - 9 = 29 | |
| 18 - 2 = 16 | | 19 + 6 = 25 | | 28 - 3 = 25 | | 23 + 7 = 30 | |
| 8 + 16 = 24 | | 21 - 7 = 14 | | 8 + 18 = 26 | | 44 - 6 = 38 | |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 5 x 8 = 40 | | 4 x 9 = 36 | | 7 x 7 = 49 | | 10 x 6 = 60 | |
| 54 ÷ 6 = 9 | | 21 ÷ 7 = 3 | | 12 ÷ 4 = 3 | | 16 ÷ 8 = 2 | |
| 4 x 7 = 28 | | 3 x 6 = 18 | | 8 x 9 = 72 | | 7 x 8 = 56 | |
| 70 ÷ 7 = 10 | | 81 ÷ 9 = 9 | | 40 ÷ 4 = 10 | | 24 ÷ 4 = 6 | |
| 8 x 6 = 48 | | 7 x 5 = 35 | | 4 x 4 = 16 | | 8 x 8 = 64 | |
| 24 ÷ 8 = 3 | | 32 ÷ 4 = 8 | | 14 ÷ 7 = 2 | | 30 ÷ 6 = 5 | |
| 7 x 3 = 21 | | 2 x 8 = 16 | | 9 x 6 = 54 | | 9 x 3 = 27 | |
| 20 ÷ 4 = 6 | | 42 ÷ 6 = 7 | | 36 ÷ 6 = 6 | | 63 ÷ 7 = 9 | |
| 10 x 8 = 80 | | 4 x 6 = 24 | | 7 x 10 = 70 | | 10 x 4 = 40 | |
| 72 ÷ 9 = 8 | | 40 ÷ 8 = 5 | | 60 ÷ 6 = 10 | | 54 ÷ 9 = 6 | |
| 4 x 8 = 32 | | 5 x 6 = 30 | | 3 x 8 = 24 | | 7 x 2 = 14 | |
| 80 ÷ 8 = 10 | | 28 ÷ 4 = 7 | | 56 ÷ 7 = 8 | | 18 ÷ 6 = 3 | |
| 7 x 6 = 42 | | 7 x 9 = 63 | | 4 x 5 = 20 | | 6 x 6 = 36 | |
| 16 ÷ 4 = 4 | | 48 ÷ 6 = 8 | | 64 ÷ 8 = 8 | | 35 ÷ 7 = 5 | |
| 9 x 5 = 45 | | 2 x 9 = 18 | | 4 x 9 = 36 | | 4 x 3 = 12 | |
| 49 ÷ 7 = 7 | | 72 ÷ 8 = 9 | | 63 ÷ 9 = 7 | | 36 ÷ 4 = 9 | |

Evaluation Copy
AWS Publications Ltd
All rights reserved



Copyright © 2007 AWS Publications Ltd



It is **illegal** to photocopy this page

# 21

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **4's**.

4, ____, ____, ____, 20, ____, ____, ____,

____, 40, ____, ____, ____, ____, 60

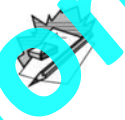
(2) **Skip counting** in **5's**, **write** the number that is **between** ...

25 ____ 35, 80 ____ 90, 55 ____ 65

(3) **Add** all the numbers in this matrix.

| | | | |
|---|---|---|---|
| 18 | 34 | 540 | |
| 236 | 570 | 19 | |
| 6 | 860 | 90 | |
| | | | Total |

(4) **Write** these number words as **decimal numerals**.



twelve point three four seven ____

eighty-seven point zero five six ____

(5) **Round** these numbers to the **nearest 10**.

467 = ____ 1274 = ____

392 = ____ 1655 = ____

**Add** and **subtract** these numbers.

(6) 60 + 217 = ____ (11) 168 - 43 = ____

(7) 138 + 62 = ____ (12) 231 - 14 = ____

(8) 52 + 284 = ____ (13) 445 - 52 = ____

(9) ____ + 78 = 451 (14) 212 - ____ = 126

(10) 55 + ____ = 200 (15) ____ - 89 = 163

**Multiplying** and **dividing** in 4's, 5's, 7's, 8's & 9's.

(16) 5 x 3 = ____ (21) 5 ÷ 5 = ____

(17) 5 x 7 = ____ (22) 63 ÷ 7 = ____

(18) 4 x 10 = ____ (23) 8 ÷ 4 = ____

(19) 9 x ____ = 36 (24) 63 ÷ ____ = 9

(20) ____ x 8 = 48 (25) ____ ÷ 8 = 8

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 22

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **5's**.

75, ____, ____, ____, ____, 50, ____, 40

____, ____, 25, ____, ____, ____, 5

(2) **Skip counting** in **7's**, **write** the number that comes **after** ...

42, ____ 84, ____ 70, ____

(3) **Write** these numbers in order from **smallest** to **largest**.

| |
|---|
| 0.092 |
| 12.8 |
| 346 |
| 7.84 |
| 0.897 |

____, ____, ____, ____, ____

(4) What is the **value** of the **BOLD** digit in each money total?

Example: In $45 the **5** means **5 dollars**.

$67**7** = ____ $3**9**5 = ____

$**1**081 = ____ $**4**302 = ____

(5) **Write** these decimals as **number words**.

7.054 ____

23.571 ____

**Add** and **subtract** these numbers.

(6) 43 + 125 = ____ (11) 237 - 14 = ____

(7) 217 + 14 = ____ (12) 200 - 55 = ____

(8) 52 + 393 = ____ (13) 428 - 86 = ____

(9) ____ + 86 = 212 (14) 252 - ____ = 163

(10) 87 + ____ = 302 (15) ____ - 48 = 297

**Multiplying** and **dividing** in 4's, 5's, 7's, 8's & 9's.

(16) 5 x 5 = ____ (21) 45 ÷ 5 = ____

(17) 10 x 7 = ____ (22) 14 ÷ 7 = ____

(18) 4 x 4 = ____ (23) 28 ÷ 4 = ____

(19) 9 x ____ = 54 (24) 72 ÷ ____ = 9

(20) ____ x 8 = 8 (25) ____ ÷ 8 = 3

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# 23

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **7's**.

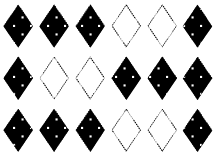
_____, _____, 21, _____, _____, _____, _____, 56,

_____, _____, _____, 84, _____, _____, 105

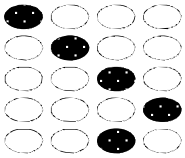
(2) **Skip counting** in **8's**, **write** the number that comes **before** ...

_____ , 48 _____ , 80 _____ , 136

(3) What fraction of each group of shapes is shaded?

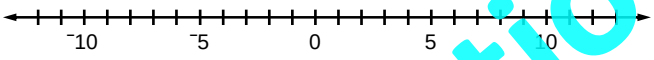


_____



_____

(4) **Add** these positive and negative numbers.




⁻10 + 7 = _____ 5 + ⁻7 = _____

8 + ⁻6 = _____ ⁻3 + ⁻6 = _____

(5) **Round** these numbers to the **nearest 100**.

474 = _____ 3298 = _____

614 = _____ 7950 = _____

**Add** and **subtract** these numbers.

(6) 14 + 223 = _____ (11) 396 - 93 = _____

(7) 145 + 55 = _____ (12) 302 - 87 = _____

(8) 86 + 342 = _____ (13) 263 - 82 = _____

(9) _____ + 89 = 252 (14) 345 - _____ = 297

(10) 47 + _____ = 260 (15) _____ - 67 = 178

**Multiplying** and **dividing** in 4's, 5's, 7's, 8's & 9's.

(16) 5 x 10 = _____ (21) 10 ÷ 5 = _____

(17) 4 x 7 = _____ (22) 49 ÷ 7 = _____

(18) 4 x 6 = _____ (23) 32 ÷ 4 = _____

(19) 9 x _____ = 9 (24) 27 ÷ _____ = 9

(20) _____ x 8 = 72 (25) _____ ÷ 8 = 5

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 24

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **8's**.

_____, _____, 104, _____, _____, 80, _____,

_____, 56, _____, _____, 32, _____, _____, 8

(2) **Skip counting** in **9's**, **write** the number that is **between** ...

90 _____ 108, 27 _____ 45, 72 _____ 90

(3) What is the **value** of the **BOLD** digit in each money total?

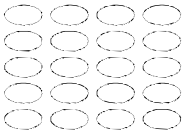
Example: In $4.**1**5 the **5** means **5 cents**.

$9.**8**0 = _____ $7.2**3** = _____

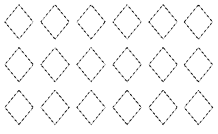
$3**6**.45 = _____ $5.**9**5 = _____

(4) **Shade** in part of each group of shapes to show you understand these fractions.

$\frac{3}{5}$



$\frac{2}{9}$



(5) Carol has saved $4000. If she spends $2345 on air tickets, how much money does she have left?

_____ - _____ = _____

**Add** and **subtract** these numbers.

(6) 93 + 303 = _____ (11) 379 - 26 = _____

(7) 215 + 87 = _____ (12) 260 - 47 = _____

(8) 82 + 181 = _____ (13) 427 - 45 = _____

(9) _____ + 48 = 345 (14) 245 - _____ = 178

(10) 62 + _____ = 200 (15) _____ - 78 = 373

**Multiplying** and **dividing** in 4's, 5's, 7's, 8's & 9's.

(16) 5 x 4 = _____ (21) 35 ÷ 5 = _____

(17) 6 x 7 = _____ (22) 56 ÷ 7 = _____

(18) 4 x 1 = _____ (23) 12 ÷ 4 = _____

(19) 9 x _____ = 81 (24) 45 ÷ _____ = 9

(20) _____ x 8 = 16 (25) _____ ÷ 8 = 10

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy
AWS Publications Ltd
All rights reserved

## 25

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **9's**.

135, ____, ____, ____, 99, ____, ____, 72,

____, ____, ____, ____, 27, ____, 9

(2) **Skip counting** in **4's**, **write** the number that comes **after** ...

20, ____ 68, ____ 52, ____

(3) **Find** each **fraction** of these whole numbers.

$\frac{1}{6}$ of 48 = ____ $\frac{3}{8}$ of 32 = ____

$\frac{1}{9}$ of 54 = ____ $\frac{4}{7}$ of 35 = ____

(4) **Round** these numbers to the **nearest 1000**

3670 = ____ 5495 = ____

6198 = ____ 9500 = ____

(5) **Multiplying** large numbers.

| 168 | 274 | 593 |
|---|---|---|
| x 7 | x 8 | x 6 |
| | | |

**Add** and **subtract** these numbers.

(6) 26 + 353 = ____ (11) 277 - 60 = ____

(7) 213 + 47 = ____ (12) 200 - 62 = ____

(8) 45 + 382 = ____ (13) 336 - 52 = ____

(9) ____ + 67 = 245 (14) 451 - ____ = 373

(10) 14 + ____ = 231 (15) ____ - 86 = 126

**Multiplying** and **dividing** in 4's, 5's, 7's, 8's & 9's.

(16) 5 x 6 = ____ (21) 40 ÷ 5 = ____

(17) 1 x 7 = ____ (22) 21 ÷ 7 = ____

(18) 4 x 9 = ____ (23) 20 ÷ 4 = ____

(19) 9 x ____ = 18 (24) 90 ÷ ____ = 9

(20) ____ x 8 = 56 (25) ____ ÷ 8 = 4

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 26

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **4's**.

____, ____, 12, ____, ____, ____, 32

36, ____, ____, ____, ____, 56, 60

(2) **Skip counting** in **6's**, **write** the number that comes **before** ...

____, 54 ____, 30 ____, 72

(3) **Dividing** large numbers.

$4\overline{)984}$ $7\overline{)1141}$

$5\overline{)495}$ $9\overline{)2115}$

(4) **Fill in** the missing fractions, decimals or percentages.

| fraction | decimal | percentage |
|---|---|---|
| ↔ | 0.5 | ↔ |
| $\frac{1}{4}$ ↔ | ↔ | |
| ↔ | ↔ | $33\frac{1}{3}$% |

(5) **Round** these numbers to the **nearest 10th**.

5.47 = ____ 6.19 = ____

45.93 = ____ 17.65 = ____

**Add** and **subtract** these numbers.

(6) 13 + 274 = ____ (11) 349 - 12 = ____

(7) 157 + 45 = ____ (12) 294 - 36 = ____

(8) 62 + 324 = ____ (13) 217 - 41 = ____

(9) ____ + 65 = 323 (14) 215 - ____ = 176

(10) 28 + ____ = 407 (15) ____ - 94 = 219

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 6 x 3 = ____ (21) 6 ÷ 6 = ____

(17) 5 x 4 = ____ (22) 36 ÷ 4 = ____

(18) 9 x 10 = ____ (23) 18 ÷ 9 = ____

(19) 7 x ____ = 28 (24) 49 ÷ ____ = 7

(20) ____ x 8 = 48 (25) ____ ÷ 8 = 8

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# 27

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count backwards in **6's**.

90, ____, ____, 72, ____, ____, ____, ____,

42, 36, ____, ____, ____, ____, 6

(2) **Skip counting** in **7's**, **write** the number that is **between** ...

35 ____ 49, 119 ____ 133, 70 ____ 84

(3) **Round** these numbers to the **nearest 10** or **100** and then work out an **estimated answer**.

89 + 43 + 107 = ____ + ____ + ____ = ____

586 - 194 = _____ - _____ = _____

(4) **Multiplying** decimals.

| 57.9 | 8.96 | 1.472 |
|---|---|---|
| x 3 | x 4 | x 5 |
| | | |

(5) Find the **square** of these numbers.

Example: $3^2 = 3 \times 3 = 9$

$7^2$ = _____ $6^2$ = _____

$4^2$ = _____ $9^2$ = _____

**Add** and **subtract** these numbers.

(6) 12 + 337 = ____ (11) 165 - 53 = ____

(7) 258 + 36 = ____ (12) 407 - 28 = ____

(8) 41 + 176 = ____ (13) 335 - 64 = ____

(9) ____ + 39 = 215 (14) 313 - ____ = 219

(10) 49 + ____ = 151 (15) ____ - 93 = 247

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 6 x 5 = ____ (21) 54 ÷ 6 = ____

(17) 10 x 4 = ____ (22) 8 ÷ 4 = ____

(18) 9 x 4 = ____ (23) 63 ÷ 9 = ____

(19) 7 x ____ = 42 (24) 56 ÷ ____ = 7

(20) ____ x 8 = 8 (25) ____ ÷ 8 = 3

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 28

Term: | Week: | AWS

(1) **Write** in the missing numbers as you skip count backwards in **7's**.

105, ____, ____, 84, ____, ____, ____,

____, 49, ____, ____, 28, ____, ____, 7

(2) **Skip counting** in **8's**, **write** the number that comes **after** ...

56, ____ 24, ____ 96, ____

(3) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4**5**2 the place value is **10's** and it means **50**.

5**2**7 = _____ = _____ **6**350 = _____ = _____

7**4**1 = _____ = _____ 9**8**43 = _____ = _____

(4) **Multiplying** large numbers.

Example: 21 x 3 = (20 x 3) + (1 x 3) = 60 + 3 = 63

96 x 8 = (____ x ____) + (____ x ____)

= _____ + _____ = _____

(5) **Find** the **percentage** of these numbers.

50% of 56 = _____ 10% of 130 = _____

25% of 48 = _____ 75% of 60 = _____

**Add** and **subtract** these numbers.

(6) 53 + 112 = ____ (11) 369 - 18 = ____

(7) 379 + 28 = ____ (12) 151 - 49 = ____

(8) 64 + 271 = ____ (13) 384 - 93 = ____

(9) ____ + 94 = 313 (14) 340 - ____ = 247

(10) 16 + ____ = 290 (15) ____ - 96 = 289

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 6 x 10 = ____ (21) 12 ÷ 6 = ____

(17) 4 x 4 = ____ (22) 28 ÷ 4 = ____

(18) 9 x 6 = ____ (23) 72 ÷ 9 = ____

(19) 7 x ____ = 7 (24) 21 ÷ ____ = 7

(20) ____ x 8 = 72 (25) ____ ÷ 8 = 5

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 29

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **8's**.

120, ____, 104, ____, ____, ____, 72, ____,

____, ____, ____, ____, 24, ____, 8

(2) **Skip counting** in **9's**, **write** the number that comes **before** ...

____ , 45 ____ , 27 ____ , 81

(3) **Find** each **fraction** of these decimals.

$\frac{1}{3}$ of 6.9 = ____ $\frac{3}{4}$ of 2.4 = ____

$\frac{1}{5}$ of 8.5 = ____ $\frac{5}{8}$ of 6.4 = ____

(4) **Dividing** large numbers.

Example: 95 ÷ 5 = (50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

117 ÷ 9 = (____ ÷ ____) + (____ ÷ ____)

= ____ + ____ = ____

(5) Find the **square root** of these numbers.

Example: √9 = 3 as 3 x 3 = 9

√81 = ____ √25 = ____

√64 = ____ √144 = ____

**Add** and **subtract** these numbers.

(6) 18 + 351 = ____ (11) 388 - 27 = ____

(7) 102 + 49 = ____ (12) 290 - 16 = ____

(8) 93 + 291 = ____ (13) 258 - 64 = ____

(9) ____ + 93 = 340 (14) 385 - ____ = 289

(10) 45 + ____ = 202 (15) ____ - 65 = 258

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 6 x 4 = ____ (21) 42 ÷ 6 = ____

(17) 1 x 4 = ____ (22) 32 ÷ 4 = ____

(18) 9 x 1 = ____ (23) 27 ÷ 9 = ____

(19) 7 x ____ = 63 (24) 35 ÷ ____ = 7

(20) ____ x 8 = 16 (25) ____ ÷ 8 = 10

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 30

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **9's**.

____, 18, ____, ____, ____, ____, 63, ____

81, ____, ____, ____, ____, ____, 135

(2) **Skip counting** in **4's**, **write** the number that is **between** ...

24 ____ 32, 72 ____ 80, 48 ____ 56

(3) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4.**5**2 the place value is $^1/_{10}$'s and it means $^5/_{10}$.

4.**1**2 = ____ = ____ 4.**1**7 = ____ = ____

9.6**2** = ____ = ____ 3.**6**5 = ____ = ____

(4) **Find** the **percentage** of these decimals.

10% of 6.8 = ____ $33\frac{1}{3}$% of 9.6 = ____

25% of 8.4 = ____ 75% of 6.0 = ____

(5) **Dividing** decimals.

4)6.8 7)89.6

6)9.72 8)9.76

**Add** and **subtract** these numbers.

(6) 27 + 361 = ____ (11) 287 - 13 = ____

(7) 274 + 16 = ____ (12) 202 - 45 = ____

(8) 64 + 194 = ____ (13) 386 - 62 = ____

(9) ____ + 96 = 385 (14) 323 - ____ = 258

(10) 36 + ____ = 294 (15) ____ - 39 = 176

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 6 x 6 = ____ (21) 48 ÷ 6 = ____

(17) 6 x 4 = ____ (22) 12 ÷ 4 = ____

(18) 9 x 9 = ____ (23) 45 ÷ 9 = ____

(19) 7 x ____ = 14 (24) 70 ÷ ____ = 10

(20) ____ x 8 = 56 (25) ____ ÷ 8 = 4

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# Number Knowledge Progress Assessment 3

Practical / oral assessment: **Ask** each question as outlined below. **Record** the results by circling yes or

| | Practical / Oral Questions (Supply your child with some paper) | Result (circle) |
|---|---|---|
| 1 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **recite** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 2 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **write** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 3 | **Write** up to **10** 2, 3, 4 or 5 digit numbers and ask your child to **round** each number to the **nearest 10, 100** or **1000**. | yes / no |
| 4 | **Addition and subtraction numeracy facts.**<br><br>Tick each correct answer. | yes / no |
| 5 | **4x, 6x, 7x, 8x & 9x multiplication and division facts.**<br><br>Ask these facts one of several ways, as ...<br><br>"What does 4 multiplied by 9 equal?"<br><br>"What does 36 divided by 4 equal?"<br><br>"What number multiplied by 4 gives you an answer of 36?" | yes / no |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 2 + 24 = 26 | | 24 - 2 = 22 | | 5 + 35 = 40 | | 43 - 8 = 35 | |
| 30 - 9 = 21 | | 8 + 17 = 25 | | 37 - 6 = 31 | | 34 + 4 = 38 | |
| 15 + 8 = 23 | | 25 - 7 = 18 | | 17 + 6 = 23 | | 23 - 4 = 19 | |
| 23 - 6 = 17 | | 2 + 37 = 39 | | 48 - 9 = 39 | | 9 + 39 = 48 | |
| 4 + 25 = 29 | | 22 - 3 = 19 | | 3 + 23 = 26 | | 29 - 6 = 23 | |
| 32 - 6 = 26 | | 16 + 6 = 22 | | 44 - 8 = 36 | | 9 + 13 = 22 | |
| 14 + 7 = 21 | | 37 - 2 = 35 | | 6 + 18 = 24 | | 38 - 9 = 29 | |
| 18 - 2 = 16 | | 19 + 6 = 25 | | 28 - 3 = 25 | | 23 + 7 = 30 | |
| 8 + 16 = 24 | | 21 - 7 = 14 | | 8 + 18 = 26 | | 44 - 6 = 38 | |
| 36 - 8 = 28 | | 13 + 4 = 17 | | 25 - 6 = 19 | | 13 + 8 = 21 | |
| 7 + 31 = 38 | | 29 - 8 = 21 | | 9 + 14 = 23 | | 36 - 5 = 31 | |
| 32 - 5 = 27 | | 28 - 2 = 30 | | 23 - 2 = 21 | | 12 + 9 = 21 | |
| 19 + 7 = 26 | | 21 - 9 = 12 | | 31 + 3 = 34 | | 41 - 8 = 33 | |
| 30 - 6 = 24 | | 4 + 18 = 22 | | 25 - 2 = 23 | | 7 + 17 = 24 | |
| 15 + 6 = 21 | | 32 - 8 = 24 | | 7 + 15 = 22 | | 31 - 6 = 25 | |
| 24 - 7 = 17 | | 44 + 1 = 45 | | 26 - 7 = 19 | | 19 + 9 = 28 | |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 54 ÷ 9 = 6 | | 40 ÷ 8 = 5 | | 81 ÷ 9 = 9 | | 60 ÷ 6 = 10 | |
| 7 x 2 = 14 | | 5 x 6 = 30 | | 4 x 8 = 32 | | 3 x 8 = 24 | |
| 18 ÷ 6 = 3 | | 28 ÷ 4 = 7 | | 72 ÷ 8 = 9 | | 56 ÷ 7 = 8 | |
| 6 x 6 = 36 | | 7 x 9 = 63 | | 7 x 6 = 42 | | 4 x 5 = 20 | |
| 35 ÷ 7 = 5 | | 48 ÷ 6 = 8 | | 16 ÷ 4 = 4 | | 64 ÷ 8 = 8 | |
| 4 x 3 = 12 | | 2 x 9 = 18 | | 9 x 5 = 45 | | 4 x 9 = 36 | |
| 36 ÷ 4 = 9 | | 80 ÷ 8 = 10 | | 49 ÷ 7 = 7 | | 63 ÷ 9 = 7 | |
| 10 x 6 = 60 | | 4 x 9 = 36 | | 5 x 8 = 40 | | 7 x 7 = 49 | |
| 16 ÷ 8 = 2 | | 21 ÷ 7 = 3 | | 54 ÷ 6 = 9 | | 12 ÷ 4 = 3 | |
| 7 x 8 = 56 | | 3 x 6 = 18 | | 4 x 7 = 28 | | 8 x 9 = 72 | |
| 24 ÷ 4 = 6 | | 72 ÷ 9 = 8 | | 70 ÷ 7 = 10 | | 40 ÷ 4 = 10 | |
| 8 x 8 = 64 | | 7 x 5 = 35 | | 8 x 6 = 48 | | 4 x 4 = 16 | |
| 30 ÷ 6 = 5 | | 32 ÷ 4 = 8 | | 24 ÷ 8 = 3 | | 14 ÷ 7 = 2 | |
| 9 x 3 = 27 | | 2 x 8 = 16 | | 7 x 3 = 21 | | 9 x 6 = 54 | |
| 63 ÷ 7 = 9 | | 42 ÷ 6 = 7 | | 20 ÷ 4 = 6 | | 36 ÷ 6 = 6 | |
| 10 x 4 = 40 | | 4 x 6 = 24 | | 10 x 8 = 80 | | 7 x 10 = 70 | |

Evaluation Copy
AWS Publications Ltd
All rights reserved



Copyright © 2007 AWS Publications Ltd



It is **illegal** to photocopy this page

# 31

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **3's**.

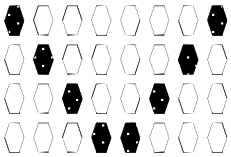
3, ____, ____, ____, ____, 18, ____, ____,

27, ____, ____, ____, 39, ____, 45, 48, 51

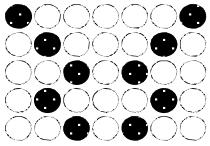
(2) **Skip counting** in **5's**, **write** the number that comes **after** ...

75, _____ 30, _____ 55, _____

(3) What fraction of each group of shapes is shaded?



_____



_____

(4) **Multiplying** large numbers.

| 895 | 237 | 504 |
|---|---|---|
| x 5 | x 8 | x 9 |
| | | |

(5) **Round** these numbers to the **nearest 10**.

468 = _____ 947 = _____

193 = _____ 825 = _____

**Add** and **subtract** these numbers.

(6) 482 + 312 = ____ (11) 986 - 684 = ____

(7) 207 + 398 = ____ (12) 777 - 358 = ____

(8) 382 + 186 = ____ (13) 637 - 396 = ____

(9) ____ + 564 = 722 (14) 633 - ____ = 298

(10) 527 + ____ = 845 (15) ____ - 463 = 468

**Multiplying** and **dividing** in 3's, 5's, 7's, 8's & 9's.

(16) 3 x 3 = ____ (21) 3 ÷ 3 = ____

(17) 5 x 5 = ____ (22) 45 ÷ 5 = ____

(18) 9 x 10 = ____ (23) 18 ÷ 9 = ____

(19) 7 x ____ = 28 (24) 49 ÷ ____ = 7

(20) ____ x 8 = 48 (25) ____ ÷ 8 = 8

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

# 32

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **5's**.

75, ____, ____, ____, ____, 50, ____, 40

____, ____, ____, 15, 10, ____

(2) **Skip counting** in **7's**, **write** the number that comes **before** ...

____, 49 ____, 21 ____, 84

(3) **Write** these numbers in order from **largest** to **smallest**.

| 578 |
|---|
| 1.69 |
| 31.9 |
| 0.192 |
| 0.098 |

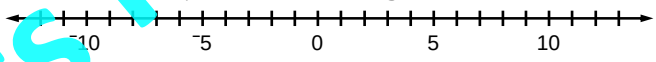
_____, _____, _____, _____, _____

(4) **Find** each **fraction** of these whole numbers.

$\frac{1}{6}$ of 180 = _____ $\frac{2}{3}$ of 240 = _____

$\frac{1}{7}$ of 210 = _____ $\frac{3}{5}$ of 400 = _____

(5) **Add** these positive and negative numbers.




$^{-}8 + 5$ = _____ $^{-}12 + 9$ = _____

$9 + {}^{-}7$ = _____ $4 + {}^{-}8$ = _____

**Add** and **subtract** these numbers.

(6) 684 + 302 = ____ (11) 478 - 136 = ____

(7) 419 + 358 = ____ (12) 845 - 527 = ____

(8) 396 + 241 = ____ (13) 725 - 270 = ____

(9) ____ + 335 = 633 (14) 931 - ____ = 468

(10) 715 + ____ = 934 (15) ____ - 596 = 287

**Multiplying** and **dividing** in 3's, 5's, 7's, 8's & 9's.

(16) 3 x 5 = ____ (21) 27 ÷ 3 = ____

(17) 10 x 5 = ____ (22) 10 ÷ 5 = ____

(18) 9 x 4 = ____ (23) 63 ÷ 9 = ____

(19) 7 x ____ = 42 (24) 56 ÷ ____ = 7

(20) ____ x 8 = 8 (25) ____ ÷ 8 = 3

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy
AWS Publications Ltd
All rights reserved

## 33

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **7's**.

7, ____, ____, 28, ____, ____, ____, 56,

____, 70, ____, ____, 91, ____, ____

(2) **Skip counting** in **8's**, **write** the number that is **between** ...

64 ____ 80, 16 ____ 32, 96 ____ 112

(3) **Add** all the numbers in this matrix.

| | | | |
|---|---|---|---|
| 3900 | 9 | 630 | |
| 80 | 510 | 20 | |
| 520 | 420 | 7100 | |
| | | | Total |

(4) **Round** these numbers to the **nearest 1000**

2345 = _____ 4783 = _____

9850 = _____ 5470 = _____

(5) **Dividing** large numbers.

Example: 95 ÷ 5 = (50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

128 ÷ 8 = (____ ÷ ____) + (____ ÷ ____)

= _____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 136 + 342 = ____ (11) 578 - 215 = ____

(7) 318 + 527 = ____ (12) 934 - 715 = ____

(8) 270 + 455 = ____ (13) 857 - 193 = ____

(9) ____ + 463 = 931 (14) 883 - ____ = 287

(10) 209 + ____ = 688 (15) ____ - 464 = 249

**Multiplying** and **dividing** in 3's, 5's, 7's, 8's & 9's.

(16) 3 x 10 = ____ (21) 6 ÷ 3 = ____

(17) 4 x 5 = ____ (22) 35 ÷ 5 = ____

(18) 9 x 6 = ____ (23) 72 ÷ 9 = ____

(19) 7 x ____ = 7 (24) 21 ÷ ____ = 7

(20) ____ x 8 = 72 (25) ____ ÷ 8 = 5

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 34

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **8's**.

____, ____, 24, ____, ____, ____, ____, 64,

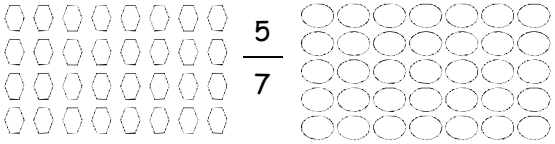
72, ____, ____, 104, ____, 120

(2) **Skip counting** in **9's**, **write** the number that comes **after** ...

90, ____ 36, ____ 63, ____

(3) **Shade** in part of each group of shapes to show you understand these fractions.

$\frac{3}{8}$ $\frac{5}{7}$



(4) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4**5**2 the place value is **10's** and it means **50**.

**4**92 = _____ = _____ **2**500 = _____ = _____

67**3** = _____ = _____ 34**1**0 = _____ = _____

(5) A running race is two laps. If lap 1 is 1630m long and lap 2 is 1270m, how far is the race?

_____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 215 + 363 = ____ (11) 578 - 463 = ____

(7) 219 + 715 = ____ (12) 688 - 209 = ____

(8) 193 + 664 = ____ (13) 567 - 175 = ____

(9) ____ + 596 = 883 (14) 713 - ____ = 249

(10) 398 + ____ = 605 (15) ____ - 564 = 158

**Multiplying** and **dividing** in 3's, 5's, 7's, 8's & 9's.

(16) 3 x 4 = ____ (21) 21 ÷ 3 = ____

(17) 6 x 5 = ____ (22) 40 ÷ 5 = ____

(18) 9 x 1 = ____ (23) 27 ÷ 9 = ____

(19) 7 x ____ = 63 (24) 35 ÷ ____ = 7

(20) ____ x 8 = 16 (25) ____ ÷ 8 = 10

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 35

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **9's**.

135, _____, _____, 108, _____, 90, _____, _____,

_____, _____, _____, 36, _____, _____, 9

(2) **Skip counting** in **3's**, **write** the number that comes **before** ...

_____ , 12 _____ , 48 _____ , 30

(3) What is the **place value** of the **BOLD** digit and what does it mean?

Example: In 4.**5**2 the place value is $^{1}/_{10}$'s and it means $^{5}/_{10}$.

4.**1**2 = _____ = _____ 4.**1**7 = _____= _____

9.6**2** = _____ = _____ 3.**6**5 = _____ = _____

(4) **Round** these numbers to the **nearest 100**.

450 = _____ 132 = _____

694 = _____ 1865 = _____

(5) **Find** the **percentage** of these numbers.

10% of 850 = _____ 25% of 600 = _____

50% of 420 = _____ $33\frac{1}{3}$% of 240 = _____

**Add** and **subtract** these numbers.

(6) 463 + 115 = _____ (11) 794 - 482 = _____

(7) 479 + 209 = _____ (12) 605 - 398 = _____

(8) 175 + 392 = _____ (13) 568 - 382 = _____

(9) _____ + 464 = 713 (14) 722 - _____ = 158

(10) 358 + _____ = 777 (15) _____ - 335 = 298

**Multiplying** and **dividing** in 3's, 5's, 7's, 8's & 9's.

(16) 3 x 6 = _____ (21) 24 ÷ 3 = _____

(17) 1 x 5 = _____ (22) 15 ÷ 5 = _____

(18) 9 x 9 = _____ (23) 45 ÷ 9 = _____

(19) 7 x _____ = 14 (24) 70 ÷ _____ = 7

(20) _____ x 8 = 56 (25) _____ ÷ 8 = 4

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 36

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **4's**.

_____, _____, 12, _____, _____, _____, 28, 32,

_____, _____, 44, _____, _____, 56, 60

(2) **Skip counting** in **6's**, **write** the number that is **between** ...

42 _____ 54, 96 _____ 108, 24 _____ 36

(3) **Find** each **fraction** of these decimals.

$\frac{1}{4}$ of 3.2 = _____ $\frac{4}{7}$ of 5.6 = _____

$\frac{1}{5}$ of 4.5 = _____ $\frac{5}{9}$ of 6.3 = _____

(4) **Fill in** the missing fractions, decimals or percentages.

| fraction | decimal | percentage |
|---|---|---|
| | | 25% |
| $\frac{1}{5}$ | | |
| | 0.75 | |

(5) **Multiplying** large numbers.

Example: 21 x 3 = (20 x 3) + (1 x 3) = 60 + 3 = 63

67 x 8 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

**Add** and **subtract** these numbers.

(6) 224 + 574 = _____ (11) 739 - 523 = _____

(7) 213 + 547 = _____ (12) 902 - 389 = _____

(8) 564 + 154 = _____ (13) 936 - 754 = _____

(9) _____ + 287 = 834 (14) 951 - _____ = 384

(10) 315 + _____ = 670 (15) _____ - 387 = 465

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 4 x 3 = _____ (21) 4 ÷ 4 = _____

(17) 5 x 7 = _____ (22) 63 ÷ 7 = _____

(18) 6 x 10 = _____ (23) 12 ÷ 6 = _____

(19) 9 x _____ = 36 (24) 63 ÷ _____ = 9

(20) _____ x 8 = 48 (25) _____ ÷ 8 = 8

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

## 37

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **6's**.

90, 84, ____, ____, ____, ____, 54, ____,

____, ____, ____, 24, ____, ____, 6

(2) **Skip counting** in **7's**, **write** the number that comes **after** ...

42, _____ 98, _____ 63, _____

(3) **Find** the **percentage** of these decimals.

10% of 5.60 = _____ 75% of 2.40 = _____

25% of 4.80 = _____ 20% of 6.40 = _____

(4) **Convert** these **fractions** to **decimals**.

$^1/_4$ = _____ $^3/_{10}$ = _____

$^3/_4$ = _____ $^1/_2$ = _____

Answers:
0.5, 0.25
0.75, 0.3

(5) **Round** these numbers to the **nearest 10th**.

8.61 = _____ 89.25 = _____

27.53 = _____ 145.17 = _____

**Add** and **subtract** these numbers.

(6) 324 + 265 = ____ (11) 968 - 531 = ____

(7) 355 + 315 = ____ (12) 580 - 173 = ____

(8) 142 + 592 = ____ (13) 738 - 561 = ____

(9) ____ + 387 = 852 (14) 974 - ____ = 695

(10) 612 + ____ = 890 (15) ____ - 348 = 573

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 4 x 5 = ____ (21) 36 ÷ 4 = ____

(17) 10 x 7 = ____ (22) 14 ÷ 7 = ____

(18) 6 x 4 = ____ (23) 42 ÷ 6 = ____

(19) 9 x ____ = 54 (24) 72 ÷ ____ = 9

(20) ____ x 8 = 8 (25) ____ ÷ 8 = 3

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 38

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **7's**.

7, ____, ____, 28, ____, ____, ____, 56,

____, ____, ____, ____, 91, ____, 105

(2) **Skip counting** in **8's**, **write** the number that comes **before** ...

_____, 40 _____, 112 _____, 96

(3) **Dividing** large numbers.

6)1410 8)2912

7)2394 9)1773

(4) **Convert** these **decimals** to **percentages**.

0.5 = _____ 0.75 = _____

0.25 = _____ 0.8 = _____

Answers:
80%, 50%
75%, 25%

(5) **Round** these numbers to the **nearest 10** or **100** and then work out an **estimated answer**.

98 + 65 + 132 = ____ + ____ + ____ = ____

7854 - 3294 = _____ - _____ = _____

**Add** and **subtract** these numbers.

(6) 523 + 216 = ____ (11) 589 - 324 = ____

(7) 513 + 389 = ____ (12) 670 - 315 = ____

(8) 754 + 182 = ____ (13) 734 - 142 = ____

(9) ____ + 567 = 951 (14) 852 - ____ = 465

(10) 173 + ____ = 580 (15) ____ - 279 = 695

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 4 x 10 = ____ (21) 8 ÷ 4 = ____

(17) 4 x 7 = ____ (22) 49 ÷ 7 = ____

(18) 6 x 6 = ____ (23) 48 ÷ 6 = ____

(19) 9 x ____ = 9 (24) 27 ÷ ____ = 9

(20) ____ x 8 = 72 (25) ____ ÷ 8 = 5

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy
AWS Publications Ltd
All rights reserved

## 39

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count in **8's**.

8, ____, 24, ____, ____, ____, ____, ____,

72, ____, ____, 96, ____, ____, 120

(2) **Skip counting** in **9's**, **write** the number that is **between** ...

27 ____ 45, 81 ____ 99, 108 ____ 126

(3) **Multiplying** decimals.

| 85.4 | 1.46 | 23.5 |
|---|---|---|
| x 7 | x 8 | x 9 |
| | | |

(4) **Convert** these **percentages** to **decimals**.

25% = _____ 60% = _____

40% = _____ 75% = _____

Answers: 0.75, 0.4 0.6, 0.25

(5) Find the **square** of these numbers.

Example: $3^2 = 3 \times 3 = 9$

$10^2$ = _____ $8^2$ = _____

$7^2$ = _____ $11^2$ = _____

**Add** and **subtract** these numbers.

(6) 531 + 437 = ____ (11) 649 - 237 = ____

(7) 407 + 173 = ____ (12) 890 - 612 = ____

(8) 561 + 177 = ____ (13) 658 - 166 = ____

(9) ____ + 279 = 974 (14) 921 - ____ = 573

(10) 547 + ____ = 760 (15) ____ - 287 = 547

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 4 x 4 = ____ (21) 28 ÷ 4 = ____

(17) 6 x 7 = ____ (22) 56 ÷ 7 = ____

(18) 6 x 1 = ____ (23) 18 ÷ 6 = ____

(19) 9 x ____ = 81 (24) 45 ÷ ____ = 9

(20) ____ x 8 = 16 (25) ____ ÷ 8 = 10

Copyright ©2007 AWS Publications Ltd

This page CANNOT be photocopied

## 40

Term: Week: AWS

(1) **Write** in the missing numbers as you skip count backwards in **9's**.

135, 126, ____, ____, ____, 90, ____, ____,

____, ____, 45, ____, ____, 18, ____

(2) **Skip counting** in **4's**, **write** the number that comes **after** ...

32, ____ 68, ____ 44, ____

(3) **Dividing** decimals.

$6\overline{)27.36}$ $7\overline{)1.638}$

$4\overline{)227.2}$ $9\overline{)31.32}$

(4) **Convert** these **decimals** to **fractions**.

0.4 = _____ 0.25 = _____

0.75 = _____ 0.8 = _____

Answers: $^3/_4$, $^2/_5$ $^4/_5$, $^1/_4$

(5) Find the **square root** of these numbers.

Example: $\sqrt{9} = 3$ as $3 \times 3 = 9$

$\sqrt{16}$ = _____ $\sqrt{49}$ = _____

$\sqrt{81}$ = _____ $\sqrt{36}$ = _____

**Add** and **subtract** these numbers.

(6) 237 + 412 = ____ (11) 789 - 224 = ____

(7) 278 + 612 = ____ (12) 760 - 547 = ____

(8) 166 + 492 = ____ (13) 718 - 564 = ____

(9) ____ + 348 = 921 (14) 834 - ____ = 547

(10) 389 + ____ = 902 (15) ____ - 567 = 384

**Multiplying** and **dividing** in 4's, 6's, 7's, 8's & 9's.

(16) 4 x 6 = ____ (21) 32 ÷ 4 = ____

(17) 1 x 7 = ____ (22) 21 ÷ 7 = ____

(18) 6 x 9 = ____ (23) 30 ÷ 6 = ____

(19) 9 x ____ = 18 (24) 90 ÷ ____ = 9

(20) ____ x 8 = 56 (25) ____ ÷ 8 = 4

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Evaluation Copy AWS Publications Ltd All rights reserved

# Number Knowledge Progress Assessment 4

Practical / oral assessment: **Ask** each question as outlined below. **Record** the results by circling yes or

| | Practical / Oral Questions (Supply your child with some paper) | Result (circle) |
|---|---|---|
| 1 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **recite** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 2 | **Skip counting** in **4's**, **6's**, **7's**, **8's** and **9's**, ask your child to **write** a **forward** and **backward** sequence of at least the first **10 multiples** for each number. | yes / no |
| 3 | **Write** up to **10** 2, 3, 4 or 5 digit numbers and ask your child to **round** each number to the **nearest 10, 100** or **1000**. | yes / no |
| 4 | **Addition and subtraction numeracy facts.**<br><br>Tick each correct answer. | yes / no |
| 5 | **4x, 6x, 7x, 8x & 9x multiplication and division facts.**<br><br>Ask these facts one of several ways, as ...<br><br>"What does 4 multiplied by 9 equal?"<br><br>"What does 36 divided by 4 equal?"<br><br>"What number multiplied by 4 gives you an answer of 36?" | yes / no |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 8 + 18 = 26 | | 21 - 7 = 14 | | 8 + 16 = 24 | | 24 - 2 = 22 | |
| 25 - 6 = 19 | | 13 + 4 = 17 | | 36 - 8 = 28 | | 8 + 17 = 25 | |
| 9 + 14 = 23 | | 29 - 8 = 21 | | 7 + 31 = 38 | | 25 - 7 = 18 | |
| 23 - 2 = 21 | | 28 + 2 = 30 | | 32 - 5 = 27 | | 2 + 37 = 39 | |
| 31 + 3 = 34 | | 21 - 9 = 12 | | 19 + 7 = 26 | | 22 - 3 = 19 | |
| 25 - 2 = 23 | | 4 + 18 = 22 | | 30 - 6 = 24 | | 16 + 6 = 22 | |
| 7 + 15 = 22 | | 32 - 8 = 24 | | 15 + 6 = 21 | | 37 - 2 = 35 | |
| 26 - 7 = 19 | | 44 + 1 = 45 | | 24 - 7 = 17 | | 19 + 6 = 25 | |
| 2 + 24 = 26 | | 43 - 8 = 35 | | 5 + 35 = 40 | | 44 - 6 = 38 | |
| 30 - 9 = 21 | | 34 + 4 = 38 | | 37 - 6 = 31 | | 13 + 8 = 21 | |
| 15 + 8 = 23 | | 23 - 4 = 19 | | 17 + 6 = 23 | | 36 - 5 = 31 | |
| 23 - 6 = 17 | | 9 + 19 = 28 | | 48 - 9 = 39 | | 12 + 9 = 21 | |
| 4 + 25 = 29 | | 29 - 6 = 23 | | 3 + 23 = 26 | | 41 - 8 = 33 | |
| 32 - 6 = 26 | | 9 + 13 = 22 | | 44 - 8 = 36 | | 7 + 17 = 24 | |
| 14 + 7 = 21 | | 38 - 9 = 29 | | 6 + 18 = 24 | | 31 - 6 = 25 | |
| 18 - 2 = 16 | | 23 + 7 = 30 | | 28 - 3 = 25 | | 29 + 9 = 38 | |

| | ✓ | | ✓ | | ✓ | | ✓ |
|---|---|---|---|---|---|---|---|
| 10 x 6 = 60 | | 4 x 9 = 36 | | 5 x 8 = 40 | | 7 x 7 = 49 | |
| 16 ÷ 8 = 2 | | 21 ÷ 7 = 3 | | 54 ÷ 6 = 9 | | 12 ÷ 4 = 3 | |
| 7 x 8 = 56 | | 3 x 6 = 18 | | 4 x 7 = 28 | | 8 x 9 = 72 | |
| 24 ÷ 4 = 6 | | 81 ÷ 9 = 9 | | 70 ÷ 7 = 10 | | 40 ÷ 4 = 10 | |
| 8 x 8 = 64 | | 7 x 5 = 35 | | 8 x 6 = 48 | | 4 x 4 = 16 | |
| 30 ÷ 6 = 5 | | 32 ÷ 4 = 8 | | 24 ÷ 8 = 3 | | 14 ÷ 7 = 2 | |
| 9 x 3 = 27 | | 2 x 8 = 16 | | 7 x 3 = 21 | | 9 x 6 = 54 | |
| 63 ÷ 7 = 9 | | 42 ÷ 6 = 7 | | 20 ÷ 4 = 6 | | 36 ÷ 6 = 6 | |
| 10 x 4 = 40 | | 4 x 6 = 24 | | 10 x 8 = 80 | | 7 x 10 = 70 | |
| 54 ÷ 9 = 6 | | 40 ÷ 8 = 5 | | 72 ÷ 9 = 8 | | 60 ÷ 6 = 10 | |
| 7 x 2 = 14 | | 5 x 6 = 30 | | 4 x 8 = 32 | | 3 x 8 = 24 | |
| 18 ÷ 6 = 3 | | 28 ÷ 4 = 7 | | 80 ÷ 8 = 10 | | 56 ÷ 7 = 8 | |
| 6 x 6 = 36 | | 7 x 9 = 63 | | 7 x 6 = 42 | | 4 x 5 = 20 | |
| 35 ÷ 7 = 5 | | 48 ÷ 6 = 8 | | 16 ÷ 4 = 4 | | 64 ÷ 8 = 8 | |
| 4 x 3 = 12 | | 2 x 9 = 18 | | 9 x 5 = 45 | | 4 x 9 = 36 | |
| 36 ÷ 4 = 9 | | 72 ÷ 8 = 9 | | 49 ÷ 7 = 7 | | 63 ÷ 9 = 7 | |

Evaluation Copy
AWS Publications Ltd
All rights reserved



Copyright © 2007 AWS Publications Ltd



It is **illegal** to photocopy this page

Evaluation Copy
AWS Publications Ltd
All rights reserved

# Curriculum Strand Worksheets Section

## (Level 3 & 4)

# Number & Algebra, Measurement & Geometry, and Statistics Worksheets

Select **ONE** Curriculum Strand Worksheet per week

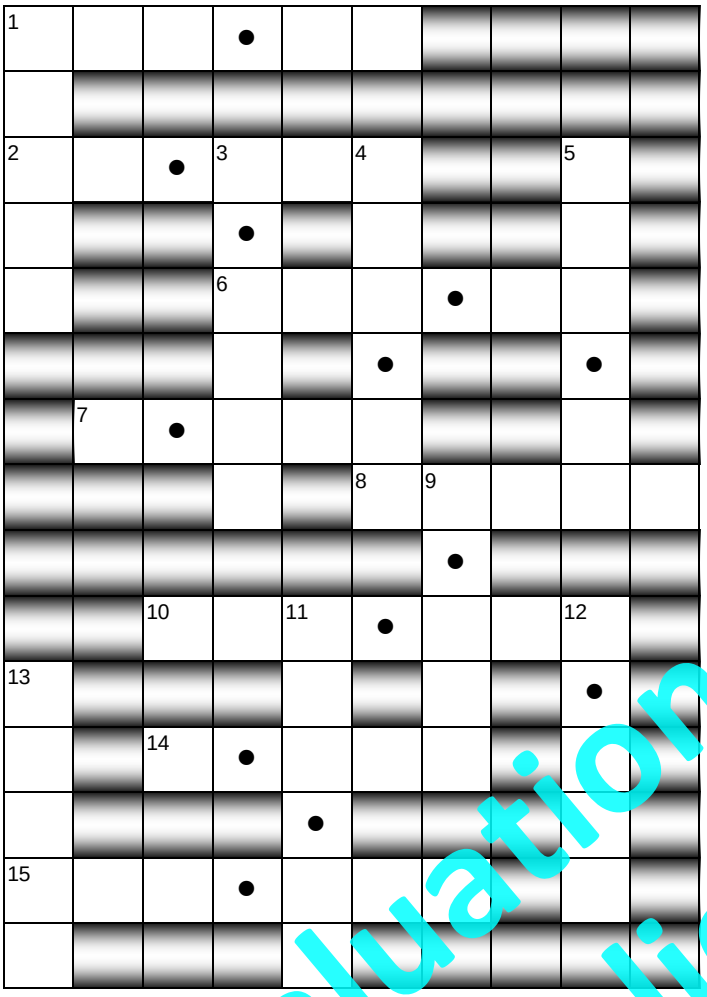
to be completed in conjunction with

**ONE** Number Knowledge Worksheet.

Record your selection in the table at

the front of this resource.

Evaluation Copy
AWS Publications Ltd
All rights reserved



(1) Use the clues **across** and **down** to complete this number cross.

**Across**

**1** four hundred and seventeen point four nine

**2** ninety-two point seven six five

**6** three hundred and forty-six point one two

**7** zero point one five seven

**8** eighty-nine thousand, six hundred and fifty-one

**10** three hundred and forty-seven point two four nine

**14** one point nine zero six

**15** four hundred point two three five

**Down**

**1** forty-eight thousand, nine hundred and ten

**3** seven point three two one nine

**4** five hundred and six point seven eight

**5** six hundred and forty-two point seven five

**Down**

**9** nine point two three six

**11** seven hundred and thirty-nine point two four

**12** nine point four seven two

**13** twelve thousand, six hundred and forty -eight

**Write** these numerals as **number words**.

(2) 8.3

(3) 605

(4) 89.6

(5) 918.7

(6) 4713

(7) 19.014

(8) 13203

*The aim of this activity sheet is to read and write decimals as numerals and number words.*

**Suggested extension activity:**

Say aloud or write any 2, 3 or 4-digit whole number or decimal in number words and ask your child to write it as a numeral. Concentrate on pairs where the digits have been reversed.

*Example: 1423, 3241 ….. 1.47, 7.41 ... etc.*

Write any 2, 3 or 4-digit whole number or decimal as numerals and ask your child to say, then write the numeral as number words.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 2 Place value revision

Term: | Week: | AWS

As we have seen, the 'digits' in a whole number all have a place value.
Numbers involving decimals also have particular place values.

*Example:* What is the value of the digit **'9'** in each of these numbers? 20.**9**5 and 7.1**9**6

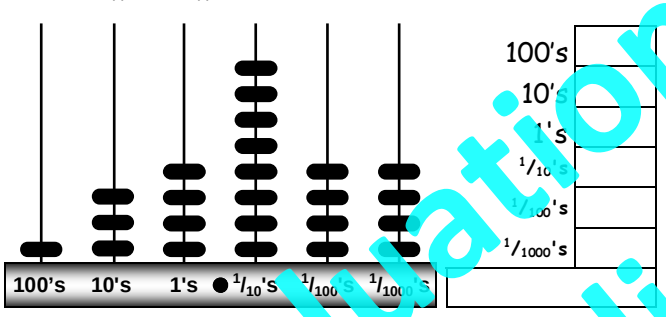
Answer: The digit **'9'** in 20.95 stands for 9 tenths.
The digit **'9'** in 7.196 stands for 9 hundredths.

Some of the **place values** for numbers involving decimals are shown in this chart below.

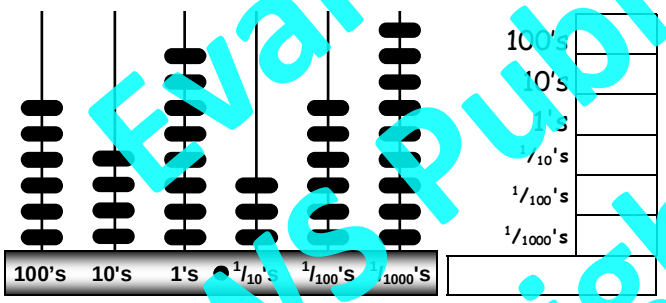
| 100 | 10 | 1 | $\frac{1}{10}$ | $\frac{1}{100}$ | $\frac{1}{1000}$ |
|---|---|---|---|---|---|
| hundreds | tens | ones (units) | tenths | hundredths | thousandths |

**Count** the number of rings on each peg.
What decimal number is shown on each abacus?

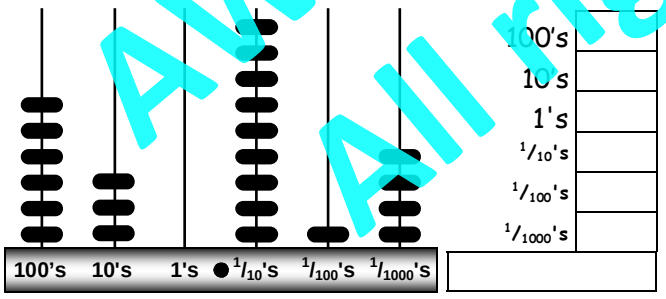
(1)



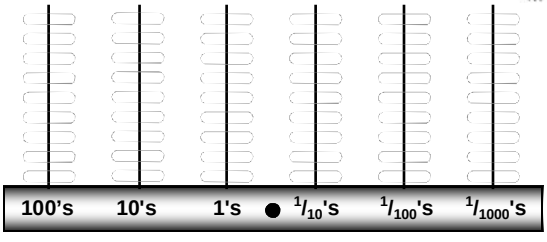

(2)



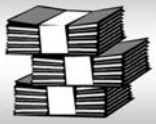

(3)




(4) **Colour in** rings on this abacus to show the number **207.136**




The place a digit has in a number will affect it's value.
*Example:* In 41.**6**2, the 6 has a place value of $^1/_{10}$ and means 0.6.



What is the **place value** of the **BOLD** digit in each number and what does it mean?

| | | Place value | means |
|---|---|---|---|
| (5) | 53.7**4**5 | | *0.04* |
| (6) | 9**7**6.20 | *10's* | |
| (7) | **5**142.49 | | |
| (8) | 72.**3**54 | | |
| (9) | **43**.025 | | |
| (10) | **6**29.49 | | |
| (11) | 19**7**.82 | | |
| (12) | 7589**1** | | |
| (13) | 9.17**5**6 | | |
| (14) | 5.**4**359 | | |
| (15) | 8.00**3**5 | | |

To show you understand **place value**, **circle** the following digits ...

(16) ... **circle** the **1's** digit in **13.602**

(17) ... **circle** the **100's** digit in **674.432**

(18) ... **circle** the $^1/_{10}$**'s** digit in **987.68**

(19) ... **circle** the $^1/_{1000}$**'s** digit in **0.3792**

(20) ... **circle** the **1000's** digit in **503856**

*The aim of this activity sheet is to understand place value for numerals that are whole numbers or ones that include decimals.*

**Suggested extension activity:**
Find different coloured blocks or objects to represent 10000's, 1000's, 100's, 10's, 1's, $^1/_{10}$'s, $^1/_{100}$'s and $^1/_{1000}$'s. Ask your child to model any numeral using the coloured blocks.
*Example: For 5.79 ... 5 1's block, 7 $^1/_{10}$'s blocks and 9 $^1/_{100}$'s blocks.*

Ask your child how many of each place value there is in any 5 to 7-digit number you write, similar to the numbers in question 16 to 20 above.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 3 Addition & subtraction strategies

Term: ____ Week: ____ AWS

There is more than one way to work out an answer. Here are some examples.

**Groupings of 10, 100 or 1000**

Adding 35 + 8 + 70 is the same as 100 + 13 = 113

(1) 59 + 4 + 50 = ____ + ____ = ____

(2) 10 + 75 + 95 = ____ + ____ = ____

(3) 620 + 29 + 400 = ____ + ____ = ____

(4) 1520 + 1580 + 16 = ____ + ____ = ____

**Using known doubles**

Adding 85 + 86 is the same as 80 + 80 + 11 = 171

or 90 + 90 - 9 = 171

(5) 74 + 71 = 70 + 70 + ____ = ____

(6) 92 + 95 = ____ + 90 + ____ = ____

(7) 114 + 115 = 110 + ____ + ____ = ____

(8) 344 + 347 = ____ + ____ + ____ = ____

**Round to make '10' or a 'multiple of 10'**

Add 98 + 9 (add 2 to 98 , subtract 2 from 9)

Answer: 98 + 9 = 100 + 7 = 107

(9) 126 + 49 = 130 + ____ = ____

(10) 57 + 275 = ____ + ____ = ____

(11) 458 + 34 = ____ + ____ = ____

(12) 69 + 638 = ____ + ____ = ____

**Adding or subtracting 100's, 10's and 1's**

*Example:* Add 473 + 524

(100's) 400 + 500 (10's) 70 + 20 (1's) 3 + 4

Answer: 900 + 90 + 7 = 997

(13) 523 + 437 is the same as ...

500 + ____ + 20 + ____ + 3 + ____ = ____

(14) 765 + 234 is the same as ...

____ = ____

(15) 887 - 354 is the same as ...

800 - ____ + ____ - 50 + ____ - 4 = ____

(16) 749 - 518 is the same as ...

____ = ____

**Splitting numbers to make '10'**

Work out 425 - 8 = ● (425 = 420 + 5)

420 - 8 = 412, Answer: 412 + 5 = 417

(17) 205 - 9 is the same as ...

200 - 9 + ____ = ____

(18) 521 - 8 is the same as ...

____ - 8 + ____ = ____

(19) 682 - 7 is the same as ...

680 - ____ + ____ = ____

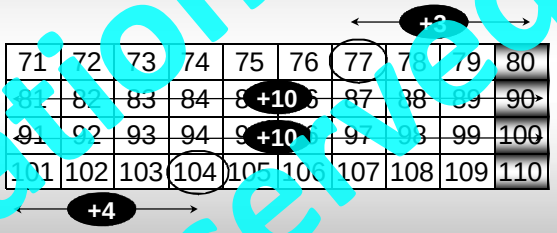
(20) 921 - 9 is the same as ...

____ = ____

**Don't subtract ... add**

104 - 77 = ● is the same as 77 + ● = 104

Use 'tidy' numbers to work this out.




Answer: 3 + 20 + 4 = 27 (77 + 3 + 20 + 4 = 104)

(21) 83 - 59 = ● is the same as 59 + ● = 83

● = 1 + 20 + ____ = ____

(22) 135 - 87 = ● is the same as 87 + ● = 135

● = 3 + ____ + ____ = ____

(23) 292 - 147 = ● is the same as 147 + ● = 292

● = ____ + ____ + ____ = ____

(24) 327 - 99 = ● is the same as 99 + ● = 327

● = ____ + ____ + ____ = ____

(25) 543 - 168 = ● is the same as 168 + ● = 543

● = ____ + ____ + ____ = ____

*The aim of this activity sheet is to look at different strategies that could be used to work out addition or subtraction problems.*

**Suggested extension activity:**

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: .....

Evaluation Copy AWS Publications Ltd All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 4 More addition & subtraction strategies

Term: Week: AWS

## Don't subtract ... add

92 - ● = 58 is the same as 58 + ● = 92

Use **'tidy'** numbers to work this out.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | **98** | 99 | 100 |

+40

- 6

**Add** a 'large' tidy number, then count back

Answer: 40 - 6 = 34 (58 + 40 = 98 - 6 = 92)

(1) 145 - 89 = ● is the same as 89 + ● = 145

● = 60 - _____ = _____

(2) 315 - 117 = ● is the same as 117 + ● = 315

● = _____ - _____ = _____

(3) 481 - 246 = ● is the same as 246 + ● = 481

● = _____ - _____ = _____

(4) 765 - 389 = ● is the same as 389 + ● = 765

● = _____ - _____ = _____

## Reversing order

● + 36 = 71 can be written as 36 + ● = 71,

then work out using any strategy

(5) ● + 78 = 117 78 + _____ = _____

(6) ● + 93 = 247 _____ + _____ = _____

(7) ● + 69 = 304 _____ + _____ = _____

(8) ● + 216 = 342 _____ + _____ = _____

(9) ● + 478 = 941 _____ + _____ = _____

## Equal additions to make 'tidy' numbers

Subtract 162 - 96 (add 4 to both numbers)

Answer: 162 - 96 = 166 - 100 = 66

(10) 72 - 38 = 74 - _____ = _____

(11) 191 - 85 = _____ - _____ = _____

(12) 345 - 56 = _____ - _____ = _____

(13) 904 - 97 = _____ - _____ = _____

(14) 796 - 148 = _____ - _____ = _____

## Both sides are equal

Find the missing number ... 57 + 32 = ● + 30

(add 2 to 57 because 30 is 2 less than 32)

Answer: 57 + 32 = 59 + 30

Find the missing number ... ● - 38 = 78 - 40

(add 2 to 78 because 38 is 2 less than 40)

Answer: 80 - 38 = 82 - 40

**Find** the missing numbers.

(15) 49 + _____ = 50 + 95

(16) 128 + 54 = 130 + _____

(17) _____ - 74 = 247 - 80

(18) 47 + 186 = _____ + 183

(19) 395 - 228 = 400 - _____

**Work out** the problems using any strategy you like.

(20) 99 - 63 = _____ = _____

(21) 312 + 89 = _____ = _____

(22) 191 - 76 = _____ = _____

(23) 334 - 186 = _____ = _____

(24) 58 + 116 = _____ = _____

(25) 85 + 24 + 19 = _____ = _____

(26) 376 - 224 = _____ = _____

(27) 75 + 139 = _____ = _____

(28) 54 + 93 + 12 = _____ = _____

*The aim of this activity sheet is to look at different strategies that could be used to work out addition or subtraction problems.*

**Suggested extension activity:**

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: .....

Evaluation Copy AWS Publications Ltd All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 5 Ordering decimals

Term: | Week: | AWS

(1) **Write** these decimals in order from smallest to largest.

| |
|---|
| 6.86 |
| 5.45 |
| 13.9 |
| 0.87 |
| 7.04 |
| 11.3 |

_____, _____, _____, _____, _____, _____

Mark competed in the javelin throw.
His throwing distances are in the table.

| Throw | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Distance | 32.85m | 31.47m | 33.48m | 33.71m | 32.75m |

(2) What was the distance of his longest throw?

_____

(3) What was the distance of his shortest throw?

_____

(4) What was the distance of the 4th longest throw?

_____

(5) **Write** the throwing distances in **order** from longest throw to shortest throw.

_____, _____, _____, _____, _____

| Lane | Time |
|---|---|
| 1 | 73.4 |
| 2 | 77.7 |
| 3 | 69.3 |
| 4 | 65.9 |
| 5 | 72.4 |
| 6 | 68.1 |
| 7 | 70.8 |
| 8 | 67.9 |

This table shows the results of a 400m race, run in 8 lanes.
The time is in seconds and there were eight runners.

(6) In which lane was the fastest runner?

_____

(7) In which lane was the 7th fastest runner?

_____

(8) What were the times for 1st, 2nd and 3rd?

_____, _____, _____

(9) **Write** the lane numbers for the runners in the 400m race in **order** from fastest time to slowest time.

_____, _____, _____, _____, _____, _____, _____, _____

Honey jars are filled by a machine.
Below are the weights of five jars.

| Honey jars | A | B | C | D | E |
|---|---|---|---|---|---|
| Weight | 1.496kg | 1.512kg | 1.491kg | 1.507kg | 1.497kg |

(10) What is the weight of the lightest honey jar?

_____

(11) What is the weight of the heaviest honey jar?

_____

(12) What is the weight of the 3rd lightest honey jar?

_____

(13) What weight of honey do you think the machine is trying to fill in each honey jar?

_____

(14) **Write** the weight of these honey jars in **order** of lightest to heaviest.

_____, _____, _____, _____, _____

Using the five digits in this box and a decimal point, create the largest number closest to 40.

| 8 | 4 | 5 | 0 | 2 | • |
|---|---|---|---|---|---|

Answer: 40.258

(15) Use these digits ....

| 9 | 6 | 1 | 5 | 7 | 2 | • |
|---|---|---|---|---|---|---|

to make the three closest numbers below and above **27**, in **order** from **smallest** to **largest**.

_____, _____, _____,

27.0000,

_____, _____, _____,

*The aim of this activity sheet is to learn to order numbers from smallest to largest or largest to smallest and revise words such as first, last, lightest and heaviest etc.*

**Suggested extension activity:**
Using up to six different money totals to represent decimals, ask your child to order the totals from the smallest to largest total.

Example: $25.40, $24.50, $32.80, $41.60 etc.

Make up similar word problems as above that involve different weight, distance or volume values and ask your child to order each group.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

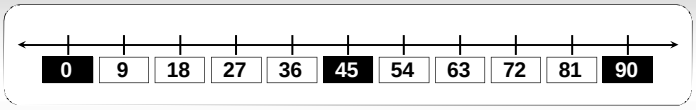
Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 6 Multiples of 9's / x & ÷ facts

Term: ____ Week: ____ AWS

This number line shows skip counting in **9's**.




"What's 9 + 9 + 9 + 9 + 9 ..... is that the same as 9 x 5?" asked Jack.

(1) **Write** the missing **multiples** of **9** as you **skip count** in **9's** up to 90.

9, _____, _____, 36, _____,

_____, 63, _____, 81, _____

**Work out** these **skip counting questions** and **write** them as **multiplication facts**.

(2) 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(3) 9 + 9 + 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(4) 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(5) 9 + 9 = _____ and is the same as 9 x _____ = _____

(6) 9 + 9 + 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(7) 9 + 9 = _____ and is the same as 9 x _____ = _____

(8) 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(9) 9 + 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

(10) 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = _____ and is the same as 9 x _____ = _____

**Write in** the missing numbers for the **9x multiplication facts**.

(11) 1 x 9 = _____
(12) 9 x 4 = _____
(13) 6 x 9 = _____
(14) 9 x 9 = _____
(15) 10 x 9 = _____
(16) 9 x 5 = _____
(17) 2 x 9 = _____
(18) 9 x 7 = _____
(19) 3 x 9 = _____
(20) 9 x 8 = _____

"How many times will 9 divide into 72?" asked Mark.
Written as 72 ÷ 9 = ? ... the answer is 8.

**Write in** the missing numbers for these **9x division facts**.

(21) 63 ÷ 9 = _____
(22) _____ ÷ 9 = 3
(23) 72 ÷ 9 = _____
(24) _____ ÷ 9 = 9
(25) 18 ÷ 9 = _____
(26) _____ ÷ 9 = 1
(27) 90 ÷ 9 = _____
(28) _____ ÷ 9 = 5
(29) 36 ÷ 9 = _____
(30) _____ ÷ 9 = 6

(31) If one book costs $9.00, how much would 8 books cost?

_____ x _____ = _____

(32) If one ice-cream costs $5.00, how much would 9 ice-creams cost?

_____ x _____ = _____

(33) If you spent $81.00 to buy 9 C.D.'s, how much did each C.D. cost?

_____ ÷ _____ = _____

*The aim of this activity sheet is to use skip counting in 9's to introduce the 9x multiplication facts. Multiplication is 'short-hand' for repeated addition of the same number.*

**Suggested extension activity:**

Revise skip counting in 9's until your child can successfully and quickly count in 9's up to at least 90. These are called the multiples of 9. Ask your child each multiplication fact until they know them all.

*Example: What is 9 multiplied by 5? ..... 9, 18 ,27, 36, 45.*

At this stage, your child may still skip count to get the answer.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 7 Rounding numbers and estimating answers

Term: ____ Week: ____ AWS

**Rounding** a money total to the **nearest 10** can make adding up money less difficult.

*Example:* $147 is almost $150, $142 is just over $140

Round **up** if the end number is 5, 6, 7, 8 or 9.
Round **down** if the number is 0, 1, 2, 3 or 4.

**Round** each money amount to the **nearest 10**.

| | | | | | |
|---|---|---|---|---|---|
| (1) | $78 | | (6) | $684 | |
| (2) | $92 | | (7) | $946 | |
| (3) | $197 | | (8) | $1277 | |
| (4) | $274 | | (9) | $2643 | |
| (5) | $186 | | (10) | $9016 | |

When **rounding** a number to the **nearest 100**, look at the 10's place value number.

*Example:* 7**6**7 rounds **up** to 800 (5, 6, 7, 8, 9 ↑)
but 4**3**7 rounds **down** to 400 (0, 1, 2, 3, 4 ↓)

When **rounding** a number to the **nearest 1000**, look at the 100's place value number.

*Example:* 7**6**75 rounds **up** to 8000 (5, 6, 7, 8, 9 ↑)
but 4**3**72 rounds **down** to 4000 (0, 1, 2, 3, 4 ↓)

**Round** these numbers to the **nearest** ...

| | | 10 | 100 | 1000 |
|---|---|---|---|---|
| (11) | 1425 | | | |
| (12) | 5639 | | | |
| (13) | 3974 | | | |
| (14) | 14609 | | | |
| (15) | 38250 | | | |

When **rounding** a decimal to **1 decimal place (1 d.p.)**, look at the $^1/_{100}$'s place value digit.

*Example:* 4.5**6** rounds **up** to 4.6 (5, 6, 7, 8, 9 ↑)
but 2.4**3** rounds **down** to 2.4 (1, 2, 3, 4 ↓)

**Round** these decimals to **1 decimal place**.

| | | | | | |
|---|---|---|---|---|---|
| (16) | 4.79 | | (21) | 291.29 | |
| (17) | 21.42 | | (22) | 328.34 | |
| (18) | 14.87 | | (23) | 424.47 | |
| (19) | 40.09 | | (24) | 703.85 | |
| (20) | 51.62 | | (25) | 915.43 | |

**Round** these money amounts to the nearest $10, $100 or 10 cents, then work out an answer.

Add $29 + $32 ... Rounded $30 + $30 = $60

Add $117 + $769 ... Rounded $100 + $800 = $900

Add $1.28 + $4.53 ... Rounded $1.30 + $4.50 = $5.80

The answer you get is called an **estimate** because it is not the exact answer.

**Round** each money amount to the **nearest $10**, then work out an **estimated answer**.

(26) $96 + $54 = _____ + _____ = _____

(27) $278 + $62 = _____ + _____ = _____

(28) $394 - $79 = _____ - _____ = _____

(29) $524 - $176 = _____ - _____ = _____

**Round** each money amount to the **nearest $100**, then work out an **estimated answer**.

(30) $425 + $789 = _____ + _____ = _____

(31) $875 + $639 = _____ + _____ = _____

(32) $1682 - $829 = _____ - _____ = _____

(33) $3631 - $979 = _____ - _____ = _____

**Round** each money amount to the **nearest 10 cents** (1 d.p.), then work out an **estimated answer**.

(34) $8.48 + $9.37 = _____ + _____ = _____

(35) $5.97 + $8.68 = _____ + _____ = _____

(36) $34.53 - $7.49 = _____ - _____ = _____

(37) $49.95 - $8.65 = _____ - _____ = _____

*The aim of this activity sheet is to round numbers to the nearest 10, 100, 1000 or $^1/_{10}$. Rounded numbers can be used when working out estimated answers.*

**Suggested extension activity:**

Call out money amounts of less than $100 and ask your child to round them to the nearest $10.00. Repeat the exercise for money amounts greater than $100 and ask your child to round to the nearest $100.00

*Example: Round $27 to the nearest 10. Round $286 to the nearest 100. Round $5.64 to the nearest $^1/_{10}$.*

Ask your child to round 2 ,3, 4 or more numbers to the nearest 10, then have them add them up to come up with an estimated answer.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 8 Multiplication strategies

Term: | Week: | AWS

When working with large numbers, there is more than one way to work out an answer. Here are some strategies.

**Using place value**

Working out 59 x 8 is the same as ...
(50 x 8) + (9 x 8) = 400 + 72 = 472

(1) 93 x 5 = ( 90 x _____) + ( 3 x _____)

= _____ + _____ = _____

(2) 73 x 6 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

(3) 86 x 7 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

(4) 98 x 8 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

(5) 209 x 4 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

**Rounding to use 'tidy' numbers**

Working out 298 x 5 is the same as ...
(300 x 5) - (2 x 5) = 1500 - 10 = 1490

(6) 897 x 4 = ( 900 x _____) - ( 3 x _____)

= _____ - _____ = _____

(7) 396 x 6 = (_____ x _____) - (_____ x _____)

= _____ - _____ = _____

(8) 695 x 7 = (_____ x _____) - (_____ x _____)

= _____ - _____ = _____

(9) 407 x 8 = ( 400 x _____) + ( 7 x _____)

= _____ + _____ = _____

(10) 506 x 9 = (_____ x _____) + (_____ x _____)

= _____ + _____ = _____

**Doubling and halving factors**

Working out 16 x 5 is the same as ...
8 x 10 = 80 ($\frac{1}{2}$ x 16 = 8, 2 x 5 = 10)

(11) 5 x 40 = 10 x _____ = _____

(12) 48 x 5 = _____ x _____ = _____

(13) 12 x 32 = _____ x _____ = _____

(14) 21 x 16 = _____ x _____ = _____

(15) 8 x 50 = _____ x _____ = _____

**Using written working forms**

To work out 95 x 8 rewrite as ...

*Firstly, 8 x 5 = 40*

*(Note: small 4 represents 40)*

$^{4}$95 x 8 = 0

*then, 90 x 8 = 720 plus 40 = 760*

95 x 8 = 760

(16) 267 x 3 = _____

(17) 519 x 4 = _____

(18) 387 x 6 = _____

(19) 349 x 7 = _____

(20) 269 x 8 = _____

(21) 569 x 9 = _____

*The aim of this activity sheet is to look at different strategies that could be used to work out multiplication problems.*

**Suggested extension activity:**

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 9 Division strategies

Term: | Week: | AWS

When working with large numbers, there is more than one way to work out an answer. Here are some strategies.

**Using known multiples of 10**

Working out 85 ÷ 5 is the same as ...
(50 ÷ 5) + (35 ÷ 5) = 10 + 7 = 17

(1) 76 ÷ 4 = ( 40 ÷ _____) + ( 36 ÷ _____)

= _____ + _____ = _____

(2) 155 ÷ 5 = ( 100 ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

(3) 108 ÷ 6 = (_____ ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

(4) 126 ÷ 7 = (_____ ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

(5) 152 ÷ 8 = (_____ ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

**Rounding up or down to use 'tidy' numbers**

Working out 95 ÷ 5 is the same as ...
(100 ÷ 5) - (5 ÷ 5) = 20 - 1 = 19

(6) 792 ÷ 2 = ( 800 ÷ _____) - ( 8 ÷ _____)

= _____ - _____ = _____

(7) 1386 ÷ 7 = (_____ ÷ _____) - (_____ ÷ _____)

= _____ - _____ = _____

(8) 1584 ÷ 8 = (_____ ÷ _____) - (_____ ÷ _____)

= _____ - _____ = _____

(9) 1224 ÷ 6 = ( 1200 ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

(10) 1827 ÷ 9 = (_____ ÷ _____) + (_____ ÷ _____)

= _____ + _____ = _____

**Halving factors**

Working out 208 ÷ 16 is the same as ...
104 ÷ 8 ... 52 ÷ 4 ... 26 ÷ 2 = 13

(11) 288 ÷ 12 = _____ ÷ 6 = _____ ÷ 3 = _____

(12) 128 ÷ 16 = _____ ÷ 8 = _____ ÷ ____ = _____

(13) 960 ÷ 40 = _____ ÷ ___ = _____ ÷ ___ = _____

(14) 528 ÷ 24 = _____

(15) 576 ÷ 32 = _____

**Using written working forms,** some with remainders. To work out 97 ÷ 6, rewrite as ...

*Firstly, 9 ÷ 6 = 1 with a remainder of 3*

*then 37 ÷ 6 = 6 with a remainder of 1*

$$\begin{array}{r} 1 \\ 6\overline{)\,9^{3}7} \end{array} \qquad \begin{array}{r} 16\ r\ 1 \\ 6\overline{)\,9^{3}7} \end{array}$$

(16) $4\overline{)\,9\ 5}$

(17) $6\overline{)\,8\ 7}$

(18) $7\overline{)\,9\ 6}$

(19) $8\overline{)\,7\ 9}$

(20) $9\overline{)\,8\ 6}$

(21) $4\overline{)\,5\ 6\ 3}$

(22) $6\overline{)\,3\ 4\ 5}$

(23) $7\overline{)\,9\ 4\ 8}$

(24) $8\overline{)\,6\ 5\ 9}$

(25) $9\overline{)\,8\ 4\ 2}$

*The aim of this activity sheet is to look at different strategies that could be used to work out division problems.*

**Suggested extension activity:**

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 10 Special numbers

Term: | Week: | AWS

"Is the number 7 a **prime** number?"
"Can you list the first 5 **multiples** of 8?"
"Can you list the **factors** of 10?"
**Prime numbers**, **multiples** and **factors** are all special types of numbers.

Use the words in the box to **fill in** the missing words in these sentences about **special numbers**.

**factor, multiples, prime**

(1) A _____ number can only be divided by two numbers, itself and 1.

(2) The _____ of a number are found by multiplying the number by 1, 2, 3, 4, 5, etc and recording the answers.

(3) A _____ of a given number is a whole number that divides exactly into the given number. There is no remainder.

Working with **prime numbers**.

(4) **List** the first **8** prime numbers.

_____

(5) **List** the prime numbers between 50 and 70.

_____

(6) **Circle** the prime numbers in this list.

29, 31, 33, 35, 37, 39, 45, 47, 49, 51

Working with **multiples**.

*Example: The multiples of 5 are ... 5, 10, 15, 20, 25, 30 etc.*

(7) **List** the first 10 multiples of 7.

_____

(8) **List** the multiples of 6 between 31 and 55.

_____

(9) **List** the multiples of 9 between 40 and 100.

_____

Working with **factors**.

*Example: 2 and 3 are factors of 6 as 2 x 3 = 6.*

(10) **List** the factors of 12.

_____

(11) **List** the factors of 35.

_____

(12) **List** the factors of 48.

_____

When a number is multiplied by itself, such as .... 1 x 1, 2 x 2, 3 x 3, 4 x 4 etc. the answers that are created are known **squares**.
These can be written as $1^2$, $2^2$, $3^2$, $4^2$, etc.
We say , $4^2$ as *'four squared'*, which means ..... 4 x 4 = 16.

**Work out** the **squares** of these numbers.

(13) $4^2$ = _____
(14) $6^2$ = _____
(15) $10^2$ = _____
(16) $5^2$ = _____
(17) $3^2$ = _____
(18) $9^2$ = _____
(19) $2^2$ = _____
(20) $7^2$ = _____
(21) $12^2$ = _____
(22) $15^2$ = _____

(23) How many concrete tiles are needed to tile a square court yard if one side is 11 tiles long? _____

The opposite of squaring a number is to find the **square root**. The symbol for square root is √.
Example: If 9 x 9 = 81, then √81 = 9
(i.e. two numbers the same that multiply to 81)

**Work out** the **square root** of these numbers.

(24) √49 = _____
(25) √100 = _____
(26) √81 = _____
(27) √9 = _____
(28) √25 = _____
(29) √64 = _____
(30) √16 = _____
(31) √144 = _____
(32) √225 = _____
(33) √400 = _____

(34) A square court yard has 36 one metre square tiles. How long is each side? _____

*The aim of this activity sheet is to understand how some special numbers are created - square and square roots.*

**Suggested extension activity:**
Read out the definitions for the special number (Q1 to Q3) and ask your child to name the special numbers.
Make up similar questions as on this worksheet.
*Example: What are the factors of 24? List the first 7 multiples of 9.*
*Is 17 a prime number? What is 10 squared? What is the square root of 81? etc.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

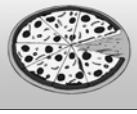
This page MUST NOT be photocopied

An object cut into TWO equal sized pieces is said to be cut in **half**.

**One half** written as a fraction is $\frac{1}{2}$.

For any fraction, the **bottom number**, tells you how many times the 'whole' object has been cut or divided up.

*Example:* $^1/_2$ , $^1/_3$ , $^1/_4$ , $^1/_5$ , $^1/_6$ , $^1/_{10}$ etc.

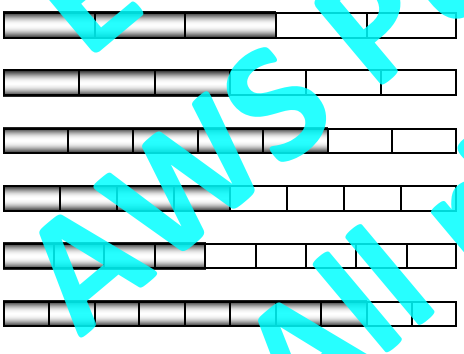


**Write** the missing fractions, words and numbers in this table. Choose from this box.

one sixth, one tenth, one half, one quarter $\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{4}$

| Fraction | Written as ... | Means ... |
|---|---|---|
| (1) | $\frac{1}{2}$ | (2) ___ out of ___ |
| one third | (3) | (4) ___ out of ___ |
| (5) | (6) | 1 out of 4 |
| one fifth | (7) | (8) ___ out of ___ |
| (9) | (10) | 1 out of 6 |
| (11) | $\frac{1}{10}$ | (12) ___ out of ___ |

(13) Each strip below has been divided up. Beside each strip, **write** what fraction has been shaded in.



= _____

= _____

= _____

= _____

= _____

= _____

(14) Show you understand fractions by shading ...

$^3/_4$ ➡

$^2/_5$ ➡

$^5/_6$ ➡

$^4/_7$ ➡

$^7/_8$ ➡

$^7/_{10}$ ➡

... of each strip.

"What's one fifth of $45?" asked Andy.
(Written as $\frac{1}{5}$ of 45 or $\frac{1}{5}$ x 45)

"Try what number multiplied by 5 is 45 or dividing 45 by 5," said Tom.
(Written as 5 x ● = 45 or 45 ÷ 5 = ●.)

Answer: $\frac{1}{5}$ x 45 = 9, as 5 x 9 = 45 or 45 ÷ 5 = 9 )

Work out each **fraction** of these numbers.

(15) Find $\frac{1}{3}$ of 36 = _____ (as 3 x ___ = 36)

(16) Find $\frac{1}{5}$ of 85 = _____ (as 5 x ___ = 85)

(17) Find $\frac{1}{7}$ of 84 = _____ (as 7 x ___ = 84)

(18) Find $\frac{1}{6}$ of 72 = _____ (as 72 ÷ 6 = ___)

(19) Find $\frac{1}{8}$ of 96 = _____ (as 96 ÷ 8 = ___)

(20) Find $\frac{1}{10}$ of 190 = _____ (as 190 ÷ 10 = ___)

Finding a '**whole**'.

(21) Ben was given 12 chocolate squares which was $\frac{1}{5}$ of a block of chocolate. How many squares in this block of chocolate?

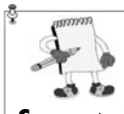
_____ x _____ = _____

(22) If Helen spent $10 which was $\frac{1}{6}$ of her pocket money, how much pocket money did she get?

_____ x _____ = _____

(23) A café has sold 23 bread rolls which was $\frac{1}{7}$ of the bread rolls available for sale that day. How many bread rolls did the café have for sale?

_____ x _____ = _____



*The aim of this activity sheet is to understand how to work out a fraction of a group of shapes or a number. Working with fractions can either involve dividing or multiplying.*

**Suggested extension activity:**

Find a collection of objects from around the house or use money totals and ask your child to find a fraction of each group / money total, using the fractions on this worksheet. Extend the exercise to include working out what a total group would be given a fraction of it.

*Example: If $\frac{1}{3}$ of a group is 4, how big is the group. Answer: 12*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 12 More fractions

Term: | Week: | AWS

For any fraction, the **bottom number**, tells you how many times the 'whole' object has been cut or divided up.

*Example:* $^1/_2$, $^1/_3$, $^1/_4$, $^1/_5$, $^1/_6$, $^1/_{10}$ etc.

If **1** is the top number, the bigger the number on the bottom, the **smaller** the fraction.

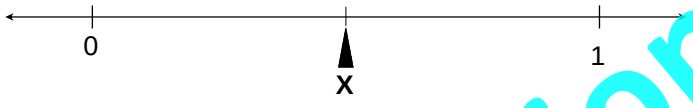
(1) **Write** the fractions in the box in **order** from **smallest** to **largest**.

$^1/_7$, $^1/_4$, $^1/_2$, $^1/_{10}$, $^1/_{12}$, $^1/_8$, $^1/_5$, $^1/_9$

___, ___, ___, ___, ___, ___, ___, ___

(2) **Mark** each fraction (A to E) on this number line, where **X** = $^1/_2$.

**A** = $^1/_7$, **B** = $^1/_{20}$, **C** = $^1/_3$, **D** = $^1/_9$, **E** = $^1/_{12}$




Just like whole numbers, a **number sequence** can be created by skip counting in fractions.

*Example:* $^1/_2$, $^2/_2$, $^3/_2$, $^4/_2$, $^5/_2$, $^6/_2$ etc.

This sequence was created by adding $^1/_2$ to each new fraction.

(3) **Write in** the missing fractions as you skip count in **$^1/_4$'s** to create this fraction sequence.

$^1/_4$, $^2/_4$, ____, ____, $^5/_4$, ____, $^7/_4$, ____, ____

(4) **Write in** the missing fractions as you skip count in **$^1/_8$'s** to create this fraction sequence.

$^1/_8$, ____, ____, $^4/_8$, ____, ____,

$^7/_8$, ____, ____, ____, $^{11}/_8$, ____, ____

(5) **Write in** the missing fractions as you skip count in **$^1/_{12}$'s** to create this fraction sequence.

____, $^2/_{12}$, ____, ____, $^5/_{12}$, ____, ____,

$^8/_{12}$, ____, ____, ____, $^{12}/_{12}$, ____, ____

"What's two thirds of $27?" asked Andy.

Written as $\frac{2}{3}$ of 27 or $\frac{2}{3}$ x 27

"Firstly, divide 27 by 3 to find $\frac{1}{3}$, then multiply your answer by 2 to find $\frac{2}{3}$", said Tom. Answer: 27 ÷ 3 = 9, then 9 x 2 = 18

Work out each **fraction** of these numbers.

(6) Find $^2/_3$ of 36 = _____ (36 ÷ 3 = ? x 2 = ?)

(7) Find $^3/_4$ of 48 = _____ (48 ÷ 4 = ? x 3 = ?)

(8) Find $^5/_7$ of 63 = _____ (63 ÷ 7 = ? x 5 = ?)

(9) Find $^7/_8$ of 56 = _____

(10) Find $^4/_5$ of 95 = _____

(11) Find $^7/_9$ of 72 = _____

Word problems.

(12) Andy is $^2/_3$ the way through a cross-country race. If the race is 4500m long, how far has he run so far?

4500 ÷ ____ = _____ x ____ = _____

(13) Room 9 pupils are $^3/_4$ the way through a 60 minute game of soccer. For how long have they been playing?

60 ÷ ____ = _____ x ____ = _____

(14) A café has sold $^4/_5$ of the bread rolls available for sale that day. If there are 80 bread rolls available, how many has the café sold so far?

_____

*The aim of this activity sheet is to understand how to order fractions, create a sequence and work with fractions when the top number is greater than one.*

**Suggested extension activity:**

Using money, ask your child to find a fraction of each money total, using the fractions on this worksheet where the top number is 1. Extend the exercise to include fractions where the top number is greater than 1 but less than the bottom number.

*Example: Find $\frac{1}{3}$ of 24, $\frac{1}{4}$ of 28, $\frac{2}{3}$ of 24, $\frac{3}{4}$ of 24, $\frac{5}{8}$ of 24, etc.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 13 Equivalent fractions

Term: ____ Week: ____ AWS

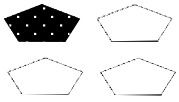
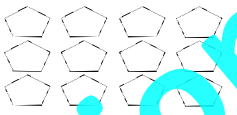
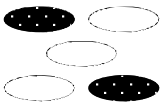
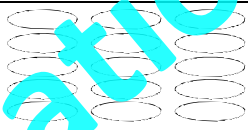
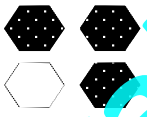
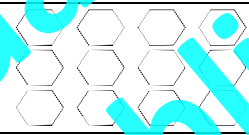
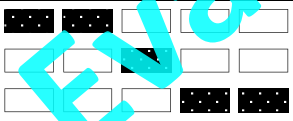
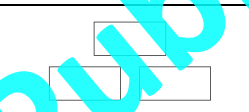
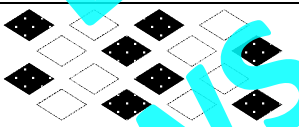
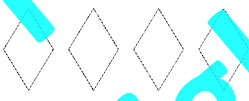
Kerry cut his pie into 4 equal pieces.
Josh cut his pie into 8 equal pieces.

If Kerry ate $^1/_4$ of his pie, how many pieces of pie must Josh eat, so that he has eaten the same fraction of his pie?

Answer: 2 pieces of pie as $^2/_8 = {}^1/_4$.

The fractions $^1/_4$ and $^2/_8$, are called **equivalent fractions**, as they represent the same part or fraction of a whole.

Part of the Group 1 shapes have been shaded in. **Shade in** the number needed in the Group 2 shapes to **create equivalent fractions**.

| | Group 1 shapes | Group 2 shapes |
|---|---|---|
| (1) |  |  |
| (2) |  |  |
| (3) |  |  |
| (4) |  |  |
| (5) |  |  |

**A larger equivalent fraction** can be created by multiplying the top and bottom numbers of a fraction by the same number.

*Example:* $^1/_3 \times {}^4/_4 = \frac{1 \times 4}{3 \times 4} = {}^4/_{12}$.

Here both numbers were multiplied by 4.

Make larger **equivalent** fractions by multiplying each fraction by the numbers given.

(6) $^1/_2 \times {}^3/_3 = \frac{1 \times}{2 \times} = $ ____

(7) $^3/_4 \times {}^5/_5 = \frac{\times}{\times} = $ ____

(8) $^2/_3 \times {}^9/_9 = \frac{\times}{\times} = $ ____

(9) $^2/_5 \times {}^7/_7 = \frac{\times}{\times} = $ ____

(10) $^3/_8 \times {}^5/_5 = \frac{\times}{\times} = $ ____

**A smaller equivalent fraction** can be created by dividing the top and bottom numbers of a fraction by the same number.

*Example:* $^{15}/_{20} \div {}^5/_5 \quad \frac{15 \div 5}{20 \div 5} = {}^3/_4$.

Here both numbers were divided by 5.

Make smaller **equivalent** fractions by dividing each fraction by the numbers given.

(11) $^{10}/_{40} \div {}^{10}/_{10} = \frac{10 \div}{40 \div} = $ ____

(12) $^{12}/_{18} \div {}^6/_6 = \frac{\div}{\div} = $ ____

(13) $^{15}/_{20} \div {}^5/_5 = \frac{\div}{\div} = $ ____

(14) $^{16}/_{40} \div {}^8/_8 = \frac{\div}{\div} = $ ____

(15) $^{36}/_{45} \div {}^9/_9 = \frac{\div}{\div} = $ ____

(16) How many bottles are NOT in this crate?

____

(17) How many bottles does this crate hold altogether? ____

(18) Write the fraction …

$$\frac{\text{Number of bottles outside crate}}{\text{Number of bottles the crate can hold}} = \text{____}$$

(19) Write the smallest equivalent fraction for your answer in Q18. ____

*The aim of this activity sheet is to understand that fractions can be represented by different numbers, but the fractions are still equivalent.*

**Suggested extension activity:**

Find a collection of objects from around the house or use money totals and ask your child to find a fraction of each group / money total and then create equivalent fractions using their answer.

*Example: Find $^1/_2$ of $40. An equivalent fraction would be $^{20}/_{40}$.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

The top number of a fraction is called the **numerator**. The bottom number is called the **denominator**.

**Fractions** can be converted into **decimals**, by dividing the numerator by the denominator.

*Example:* Convert $\frac{3}{4}$ to a decimal.

$$4\overline{)3.00} = 0.75$$

Zeros will need to be added after the decimal point. You keep dividing until there is no remainder or there are at least 3 digits after the decimal point.

**Convert** these **fractions** to **decimals**.

(1) $^1/_2$ $2\overline{)1.0}$

(2) $^1/_4$ )

(3) $^2/_5$ )

(4) $^4/_5$ )

**Decimals** can be converted into **fractions**, with denominators of 10, 100, 1000 etc.

*Example:* Convert 0.5, 0.25 and 0.019 to fractions

Answers: $^5/_{10}$ $^{25}/_{100}$ $^{19}/_{1000}$

Some fractions can be simplified ...

$^5/_{10} = {}^1/_2$ and $^{25}/_{100} = {}^1/_4$

**Convert** these **decimals** to **fractions**.

(5) 0.8 $^8/_{10}$ =

(6) 0.6

(7) 0.75

(8) 0.05

**Decimals** can be converted into **percentages**, by **multiplying** the decimal by 100.

*Example:* Convert 0.5, 0.25, 0.019 and 1.4 to percentages

Answers: 0.5 x 100 = 50%, 0.25 x 100 = 25%, 0.019 x 100 = 1.9% and 1.4 x 100 = 140%

**Convert** these **decimals** to **percentages**.

(9) 0.8 0.8 x 100 = %

(10) 0.25

(11) 0.47

(12) 3.62

**Percentages** can be converted into **decimals**, by **dividing** the percentage by 100.

*Example:* Convert 50%, 25%, 1.9% and 140% to decimals.

Answers: 50% ÷ 100 = 0.5, 25% ÷ 100 = 0.25, 1.9% ÷ 100 = 0.019 and 140% ÷ 100 = 1.4

**Convert** these **percentages** to **decimals**

(13) 60% 60 ÷ 100 =

(14) 75%

(15) 25%

(16) 150%

Percentages are out of 100. **Percentages** can be converted to **fractions** with denominators of 100.

*Example:* Convert 30%, 84% and 9% to fractions

Answers: $^{30}/_{100} = {}^3/_{10}$, $^{84}/_{100} = {}^{21}/_{25}$ and $^9/_{100}$

**Convert** these **percentages** to **fractions**.

(17) 60% $^{60}/_{100}$ =

(18) 25%

(19) 40%

(20) 75%

**Fill in** the missing fractions, decimals or percentages in the table below.

| fraction | decimal | percentage |
|---|---|---|
| (21) | ↔ (22) | 50% |
| $^1/_4$ | ↔ (23) | (24) |
| (25) | ↔ 0.75 | (26) |
| (27) | ↔ (28) | 80% |
| (29) | ↔ 0.6 | (30) |
| $^1/_5$ | ↔ (31) | (32) |

*The aim of this activity sheet is to understand that numbers can be expressed in different forms and to be able to convert between these different forms.*

**Suggested extension activity:**

Using at least the fractions, decimals, percentages presented on this page, ask your child to convert between each form.

*Example: Convert zero point five (0.5) to a fraction and a percentage. Convert sixty percentage (60%) to a decimal and a fraction. Convert one quarter to a percentage and a decimal. etc...*

Sign when completed: .....

Evaluation Copy AWS Publications Ltd All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

**Negative** numbers are used in many situations.

*Examples:*
*Last night there was a minus 6 degree frost. My bank account is in overdraft by the sum of $400.*

Negative numbers are below zero and a small **negative sign** must be shown.
The frost is written as ⁻6°C and the overdraft is written as ⁻$400.

Use the thermometer scale to **work out** the new temperature after the following changes.

(1) Start at 6°C .... drop 6°C _____

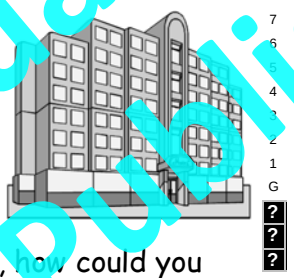
(2) Start at 0°C .... rise 8°C _____

(3) Start at 3°C .... drop 7°C _____

(4) Start at ⁻4°C .... rise 9°C _____

(5) Start at ⁻3°C .... drop 5°C _____

This hotel has several floors above ground and three floors under-ground for shops and parking.
G = ground floor




(6) Using negative numbers, how could you label the three floors below ground level?

_____

(7) If you were on the 4th floor and went down 6 floors, on which floor would you be on?

_____

Jodie has a bank account that allows her to spend more money than she has in it. When she does, the account is in overdraft and has a negative balance.

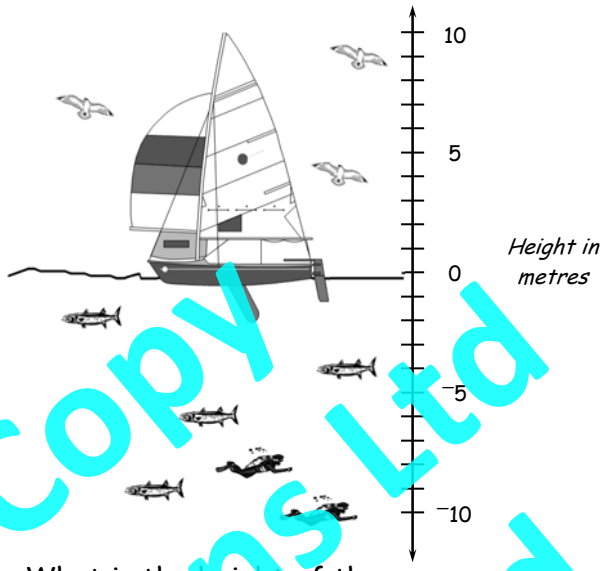
(8) Jodie's has $200 in her bank account. If she buys a new mountain bike worth $450, what is the new balance of her account?

_____

(9) Then Jodie's wages of $325 are added to her account. Work out the new balance of her account.

_____

This diagram shows a sailing ship, two divers, some birds and some fish. The sea level is at zero on the scale drawn. The scale is in metres.




(10) What is the height of the mast above the sea level? _____

(11) Write the height of each bird above the sea level as positive numbers.

_____ , _____ , _____

(12) **Draw** another bird in the sky, 10 metres above the sea level.

(13) A diver is 10 metres below sea level. **Write** this depth as a negative number? _____

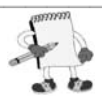
(14) What is the depth of the other diver? _____

(15) **Write** the depth of each fish as negative numbers.

_____ , _____ , _____ , _____

A diving sea bird is flying 7 metres above the sea. It then dives straight down 13 metres.

(16) **Write** the depth the bird reaches below the surface as a negative number. _____



*The aim of this activity sheet is to understand negative numbers occur below zero, as already discussed when working with temperature.*

**Suggested extension activity:**
Using money totals, ask your child to subtract more from a given total, as would occur if you had an overdraft on a bank account.

*Example: If you had $50 in an account and spent $75, what is the new balance of your account? Also do the reverse .... start with -$40, add $75 to your account ... what is the new balance?*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 16 Solving equations

Term: | Week: | AWS

To **solve** an equation **means** to **work out** the number that would go where the letter is.

*Examples:*

23 + **a** = 45, **b** + 16 = 32,

32 – **c** = 13, **d** - 12 = 34

Remember that the total on either side of the equals sign, must be the same.

Use **any strategy** you like to **solve** these equations. Be prepared to talk about what strategy you used.

| | | | |
|---|---|---|---|
| (1) | 36 + **a** = 82 | **a** | = |
| (2) | 109 - **d** = 67 | **d** | = |
| (3) | **e** + 94 = 136 | **e** | = |
| (4) | **f** - 87 = 46 | **f** | = |
| (5) | 180 - **h** = 93 | **h** | = |
| (6) | **i** + 78 = 121 | **i** | = |
| (7) | **m** x 6 = 240 | **m** | = |
| (8) | 350 ÷ **n** = 70 | **n** | = |
| (9) | 400 x **p** = 2800 | **p** | = |
| (10) | **q** ÷ 10 = 78 | **q** | = |
| (11) | **s** x 40 = 320 | **s** | = |
| (12) | **t** ÷ 5 = 125 | **t** | = |

**Read** each word problem, **write an equation**, then **work out** the **answer**. There may be more than one way to write the equation.

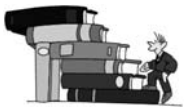
(13) Kate buys 20 books for $180.00 . How much did each book cost?

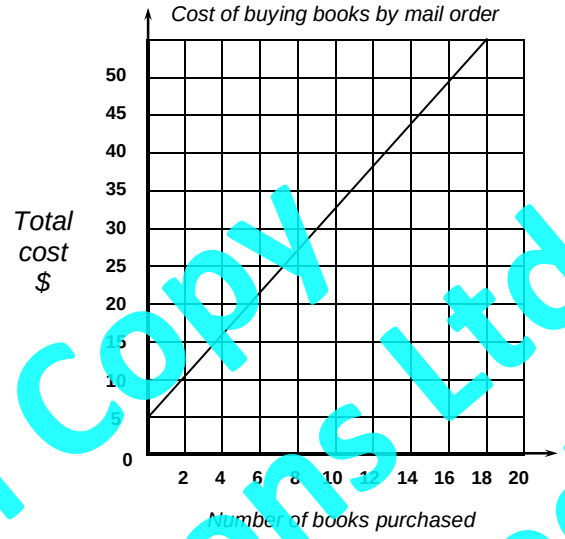
(14) Emma spends $18.00 and has $69.00 left. How much money did Emma start with?

(15) Mark is reading a book that has 142 pages. If he has 57 pages to go, how many has he read?

Sam can buy books by mail order. There is always a $5.00 postage charge with every order.

This graph shows the cost of buying books by mail order.






Use the graph to answer these questions

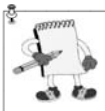
(16) How much does it cost to buy 10 books, including postage.

(17) How much does it cost to buy 10 books, without the postage charge?

(18) What does one book cost, without postage?

(19) **Write** an equation that you could use to work out the cost of ordering up to 20 books by mail order. Let **n** = number of books.

(20) Use your equation to work out the cost of buying 20 books.



The aim of this activity sheet is to revise the algebra skill of solving equations using any strategy stages involving + / - and x / ÷ numeracy facts.

**Suggested extension activity:**

Make up word problems involving everyday events that can be written as equations. Have your child write an equation for each problem.

*Example: If I buy 3 C.D.'s for $36.00, how much does each C.D. cost? If I have $30.00 and spend $21.00 on food, how much money do I have left? (Equations would be 3 x ? = 36 or 36 ÷ 3 = ? & 30 - ? = 21 or 21 + ? = 30)*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 17 Number patterns or sequences

Term: | Week: | AWS

Some number patterns or sequences are created by **adding** or **subtracting** a given number.

Example: 3, 10, 17, 24, 31, 38, 45, etc.

How was this number sequence created?

Answer: Starting with 3, add 7 to each new number.

Other number patterns or sequences are created by **multiplying** or **dividing** a given number.

Example: 2, 4, 8, 16, 32, 64, 128, etc.

How was this number sequence created?

Answer: Starting with 2, multiply each new number by 2.

**Look** at each number sequence to work out how it was created, then **write** the next **three** numbers in each sequence. **Describe** how each number sequences has been created.

(1) 4, 12, 20, 28, _____, _____, _____

(2) 0.5, 1.4, 2.3, 3.2, _____, _____, _____

(3) 83, 77, 71, 65, _____, _____, _____

(4) 9.6, 8.8, 8.0, 7.2, _____, _____, _____

**Look** at each number sequence to work out how it was created, then **write** the next **three** numbers in each sequence. **Describe** how each number sequence has been created.

(8) 4, 8, 16, 32, _____, _____, _____

(9) 5, 25, 125, _____, _____, _____

(10) 5, 10, 20, 40, _____, _____, _____

(11) 960, 480, 240, _____, _____, _____

As people enter a party, they are given a spot prize ticket numbered from 1 to 50.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |

Ben's lucky number is 7, so he started with the 7th person who got the first spot prize. He then selects every 5th person, who also gets a spot prize.

(5) On the grid above, **circle** all ticket numbers that will receive a prize.

(6) **List** the number sequence you created.

(7) How many spot prizes were won? _____

Word problem.

(12) A scoop of chips cost $1.35. **Work out** the number sequence that shows the cost of buying 1, 2, 3, 4 and 5 scoops of chips.

(13) How many scoops of chips can you buy with $12.15? _____

*The aim of this activity sheet is to create number patterns or sequences by adding, subtracting, multiplying or dividing and work out / describe how they were created.*

**Suggested extension activity:**

Using everyday examples, create your own number patterns by adding or subtracting a constant number from a starting number. Ask your child to work out and describe how the pattern was created.

*Example: If a hamburger costs $3.50, work out the cost of buying 1, 2, 3, 4, 5 .... up to 10 hamburgers to create a number sequence.*

Sign when completed: .....

Evaluation Copy AWS Publications Ltd All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 18 Measuring units - length

Term: | Week: | AWS

In New Zealand we use the **metric system**.

In the metric system, the **metre** is the basic unit for **measuring length**.

A metre is about the length of a long stride or about 3 times the length of this page (A4 size).

(1) **Name 5 objects** you could measure using the **metre** as the unit of length.

**Metric units** for measuring length.

| | |
|---|---|
| **kilometre** | 1000 times longer than a metre |
| **metre** | standard unit for length |
| **centimetre** | 100 times shorter than a metre |
| **millimetre** | 1000 times shorter than a metre |

**Name 2 objects** or **distances** you could measure using the following units for **length**.

(2) **kilometres**

(3) **centimetres**

(4) **millimetres**

**Converting** between measurement units.

| |
|---|
| 1000 millimetres (mm) = 1 metre (m) |
| 100 centimetres (cm) = 1 metre (m) |
| 10 millimetres (mm) = 1 centimetre (cm) |
| 1000 metres (m) = 1 kilometre (km) |

**Converting** between metres and millimetres.

(5) 2.5m = _____mm (7) _____m = 7300mm

(6) 3.15m = _____mm (8) _____m = 4280mm

**Converting** between metres and centimetres.

(9) 6.2m = _____cm (11) _____m = 740cm

(10) 5.75m = _____cm (12) _____m = 843cm

**Converting** between millimetres & centimetres.

(13) 15mm = _____cm (15) _____mm = 9cm

(14) 125mm = _____cm (16) _____mm = 7.8cm

**Converting** between metres and kilometres.

(17) 3200m = _____km (19) _____m = 6.3km

(18) 9540m = _____km (20) _____m = 2.71km

When adding and subtracting length measurements, the **'units'** must be the **same**.

Sam has two pieces of wood, one is 90cm long and the other is 1.7m long. What is the total length of wood in metres? Answer: 0.9m + 1.7m = 2.6m

**Add** or **subtract** these length units.

(21) 900m + 3.5km + 300cm = ? (answer in **metres**)

(22) 370cm + 2.3m - 2500mm = ? (answer in **metres**)

(23) 720mm - 53.6cm = ? (answer in **millimetres**)

(24) 810cm - 6.2m = ? (answer in **centimetres**)

(25) 2100m + 5.4km + 800m = ? (answer in **kilometres**)

(26) 93.6cm - 745mm = ? (answer in **millimetres**)

(27) 4.3m + 73cm + 310mm = ? (answer in **cm**)

*The aim of this activity sheet is to convert between the most commonly used metric units for length or distances - i.e. metres, millimetres and kilometres.*

**Suggested extension activity:**

Demonstrate how long a metre is and ask your child to name at least 5 objects or distances that can be measured using each length unit (mm, cm, m & km).

Ask your child to convert between units as above in Q5 to Q20 and add or subtract lengths presented in different units, such as in Q21 to Q27.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 19 Measuring units weight (mass)

Term: ____ Week: ____ AWS

In New Zealand we use the **metric system**.

In the metric system, the **gram** is the basic unit for **measuring weight**.

A gram is a small weight. A packet of rice crackers weighs about 100 grams.

(1) **Name 5 objects** you could measure using the **gram** as the unit of weight.

_____

_____

**Metric units** for measuring weight.

| | |
|---|---|
| **tonne** | 1000 times heavier than a kilogram |
| **kilogram** | 1000 times heavier than a gram |
| **gram** | standard unit for weight |
| **milligram** | 1000 times lighter than a gram |

**Name 2 objects** you could measure using the following units for **weight**.

(2) **tonne**

_____

(3) **kilogram**

_____

(4) **milligram**

_____

**Converting** between measurement units.

| |
|---|
| 1000 milligrams (mg) = 1 gram (g) |
| 1000 grams (g) = 1 kilogram (kg) |
| 1000 kilograms (kg) = 1 tonne (t) |

**Converting** between grams and milligrams.

(5) 6.3g = _____mg (7) _____g = 5200mg

(6) 4.28g = _____mg (8) _____g = 1290mg

**Converting** between grams and kilograms.

(9) 5700g = _____kg (11) _____g = 3.2kg

(10) 4260g = _____kg (12) _____g = 7.25kg

**Converting** between kilograms and tonnes.

(13) 4900kg = _____t (15) _____kg = 3.2t

(14) 9250kg = _____t (16) _____kg = 2.18t

When adding and subtracting weight measurements, the **'units'** must be the **same**.

Joe has two piles of books, one weighs 9600g and the other weighs 14.7kg. What is the total weight of books in kilograms? Answer: 9.6kg + 14.7kg = 24.3kg

**Add** or **subtract** these weight units.

(17) 8000mg + 6.2g + 0.5kg = ? (answer in **grams**)

_____

(18) 4.63g + 0.25kg + 3100mg = ? (answer in **grams**)

_____

(19) 5000g - 2.4kg = ? (answer in **kilograms**)

_____

(20) 10.7t - 9200kg = ? (answer in **tonnes**)

_____

(21) 7.3kg - 5950g = ? (answer in **grams**)

_____

(22) 8500mg - 5.9g = ? (answer in **milligrams**)

_____

(23) 0.75kg + 94g + 3700mg = ? (answer in **grams**)

_____

(24) 570g x 9 = ? (answer in **kilograms**)

_____

(25) 4.8g ÷ 8 = ? (answer in **milligrams**)

_____

*The aim of this activity sheet is to convert between the most commonly used metric units for weight - i.e. grams, milligrams, kilograms and tonnes.*

**Suggested extension activity:**

Use kitchen scales to demonstrate how light a gram is or some other object of a known weight. Then, using different sized objects, ask your child which unit for weight would be the best unit to use.

Ask your child to convert between units as above in Q5 to Q16 and add or subtract weights presented in different units, such as in Q17 to Q25.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 20 Measuring units volume (capacity)

Term: ____ Week: ____ AWS

In New Zealand we use the **metric system**.

In the metric system, the **litre** is the basic unit for **measuring volume**.

A litre is about 4 cups of water or the size of some milk or juice cartons.

(1) **Name 5 objects** you could measure using the **litre** as the unit of volume.

_____

_____

**Metric units** for measuring weight.

| | |
|---|---|
| **kilolitre** | 1000 times more volume than a litre |
| **litre** | standard unit for volume |
| **millilitre** | 1000 times less volume than a litre |

**Name 2 objects** you could measure using the following units for **volume**.

(2) **kilolitre**

_____

(3) **millilitre**

_____

**Converting** between measurement units.

| |
|---|
| 1000 millilitres (mL) = 1 litre (L) |
| 1000 litres (L) = 1 kilolitre (kL) |

**Converting** between litres and millilitre.

(4) 5.3L = _____mL (6) _____L = 8300mL

(5) 2.94L = _____mL (7) _____L = 6290mL

**Converting** between litres and kilolitres.

(8) 6300L = _____kL (10) _____L = 9.3kL

(9) 7250L = _____kL (11) _____L = 5.65kL

(12) How many litres of juice is 6850mL?

_____

(13) How many millilitres of medicine in a 0.75L bottle?

_____

When adding and subtracting volume measurements, the '**units**' must be the **same**.

Sam has two tins of paint, one holds 850mL and the other holds 10L. What is the total volume of paint in litres? Answer: 0.85L + 10L = 10.85L

**Add** or **subtract** these volume units.

(14) 0.5kL + 6300mL + 2.58L = ? (answer in **litres**)

(15) 4.3L + 2100mL + 0.6L = ? (answer in **litres**)

(16) 8.64kL - 4500L = ? (answer in **kilolitres**)

(17) 9250mL - 7.8L = ? (answer in **millilitres**)

(18) 8.65L - 5820mL = ? (answer in **litres**)

(19) 7.69L - 4960mL = ? (answer in **millilitres**)

(20) 3.9kL + 4200L + 1500mL = ? (answer in **litres**)

(21) 940L x 6 = ? (answer in **kilolitres**)

(22) 6480mL ÷ 8 = ? (answer in **litres**)

*The aim of this activity sheet is to convert between the most commonly used metric units for volume - i.e. litres, millilitres and kilolitres.*

**Suggested extension activity:**

Using some containers or measuring jugs, demonstrate how much liquid is needed to fill a 1 litre container. Using different sized containers, ask your child which unit for volume would be the best unit to use.

Ask your child to convert between units as above in Q4 to Q13 and add or subtract volumes presented in different units, such as in Q14 to Q22.

Sign when completed: _____

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

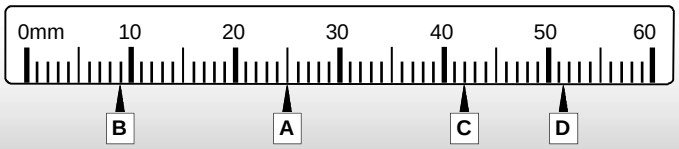
# 21 Reading scales / measuring & drawing lines

Term: ____ Week: ____ AWS

All measurement instruments have a **scale**. Being able to read the scale correctly is an important skill.

What measurement unit is on this ruler?

What measurements are given by the pointers A to D?



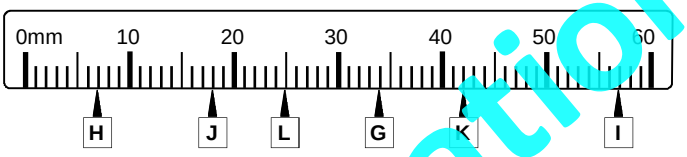

The measuring unit is millimetres (mm).

*Answers:* A = 25mm, B = 9mm, C = 42mm, D = 51.5mm

Look at this ruler below.

(1) **Name** the **units** on the ruler below ...

millimetres or centimetres (circle one)




(2) What are the measurements given by the pointers G to L?

*Example: 24mm, 39mm etc.*

G = _____ J = _____

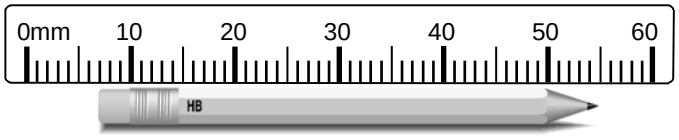
H = _____ K = _____

I = _____ L = _____

(3) **Mark** and **label** the points of A to F on this ruler.

**A** = 2.7cm, **B** = 4.3cm, **C** = 5.9cm

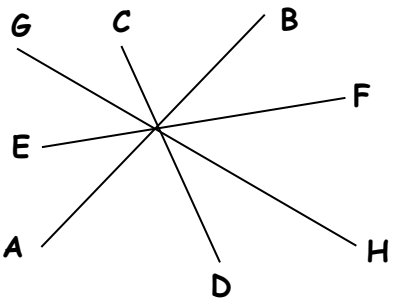
**D** = 9mm, **E** = 34mm, **F** = 17mm




(4) How long is this pencil? Answer in mm & cm.

_____ mm is the same as _____ cm

(5) **Measure** these lines to the nearest **millimetre**.




Line AB = _____ mm

Line CD = _____ mm

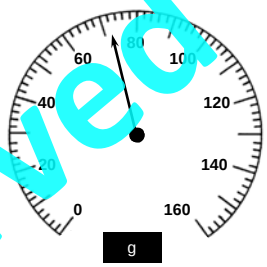
Line EF = _____ mm

Line GH = _____ mm

(6) **Draw** a 6.3cm line in the space below starting at **point X**.

X

This diagram of a weighing machine's scale shows the weight of a block.



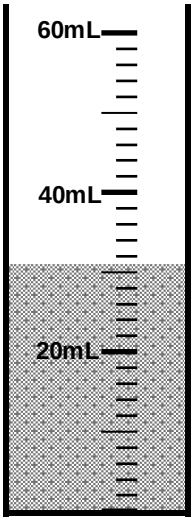

(7) What is the weight of the block?

_____

(8) If a 47g block is added to the scales, what is the new weight? _____

(9) **Draw** an arrow on this scale to show 134g.

This diagram of a measuring cylinder has some water in it.




(10) What are the units on the scale on this container?

_____

(11) What is the volume of water in the container?

_____

(12) Another 19mL of water is added to the container.

**Draw** the new water level.

The aim of this activity sheet is to learn to read scales and measure the length of small objects. Remember to measure from zero on the ruler, not the end.

**Suggested extension activity:**

Find a collection of objects from around the house that can be measured using a ruler or tape measure, kitchen or bathroom scales, or measuring jugs. Ask your child to measure various objects using the appropriate instruments.

*Example: The width of a door is about 800mm, a cup holds 250mL ...*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 22 Geometry words & naming angles

Term: | Week: | AWS

"Turn **clockwise**!" said Geoff,
"Not that way, the other way!"

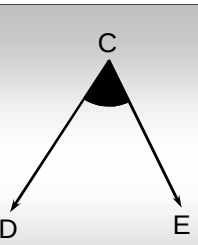
"What angle size is that? asked Ken. "**Acute**, **obtuse** or **reflex**?"

"Are these two lines **parallel** or **perpendicular**?" asked Alf.

Do you understand the meaning of these and other geometric words?

A diagram of an angle is made up of two lines (CD & CE) and a point where the lines meet (C).

This angle can be named using the three letters.
*Example:* ∠DCE or ∠ECD,
where the ∠ symbol means angle.




Use the words in the box opposite to **complete** these sentences.

| |
|---|
| acute |
| angle |
| anti-clockwise |
| clockwise |
| compass |
| degrees |
| obtuse |
| parallel |
| protractor |
| perpendicular |
| reflex |
| right |
| ruler |
| straight |

(1) This arrow is pointing in a _____ direction.

(2) This arrow is pointing in an _____ direction.

(3) An _____ is a measure of turn.

(4) Angle size is measured in _____.

(5) A _____ is used to measure angle size.

(6) A _____ is used to draw circles.

(7) A _____ is used to draw and measure straight lines.

(8) An angle that is 90° or a $\frac{1}{4}$ turn is called a _____ angle.

(9) An angle that is 180° or a $\frac{1}{2}$ turn is called a _____ angle.

(10) An _____ angle is greater than 0° but less than 90°.

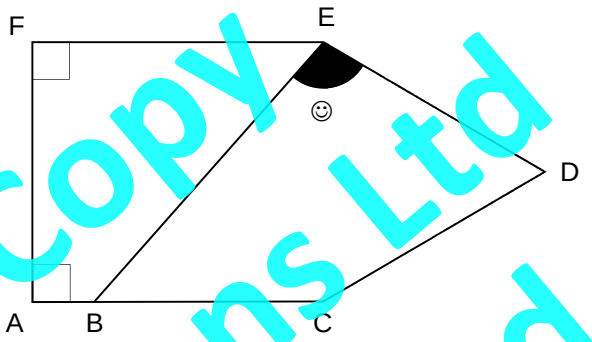
(11) An _____ angle is greater than 90° but less than 180°.

(12) A _____ angle is greater than 180° but less than 360°.

(13) Two lines that cross at right angles are _____ .

(14) Two lines that are the same distance apart are _____ .

Look at this diagram.




(15) Name the angle marked with a ☺

_____

(16) On the diagram, **mark** ∠EBC with an X.

(17) Name two lines that are **perpendicular**.

_____

(18) Name two lines that are **parallel**.

_____

(19) Name at least one ....

**acute** angle _____

**right** angle _____

**obtuse** angle _____

(20) On the diagram, **mark** a reflex angle with the letter **Y**.

(21) Do the letters on this diagram label the corners in a clockwise or anti-clockwise direction?

_____

*The aim of this activity sheet is to understand geometric words and use these words to name angles, angle sizes and types of lines.*

**Suggested extension activity:**
Look around your house and ask your child to identify geometric features associated with the words used in this worksheet.

*Example: Is the pattern on the wall-paper is a clockwise direction? Point to two parallel lines in this picture. Open the door so that it forms an acute angle with the door frame. Point to two lines on the wall that are perpendicular. What angle does the wall and ceiling create where they meet? ... etc.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

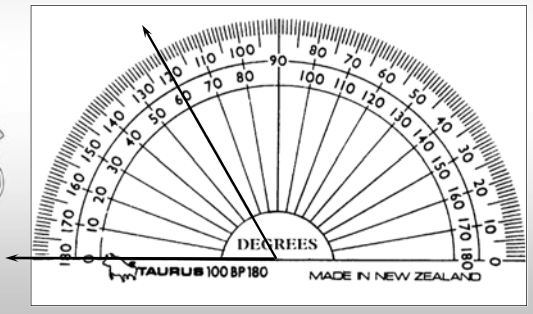
Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

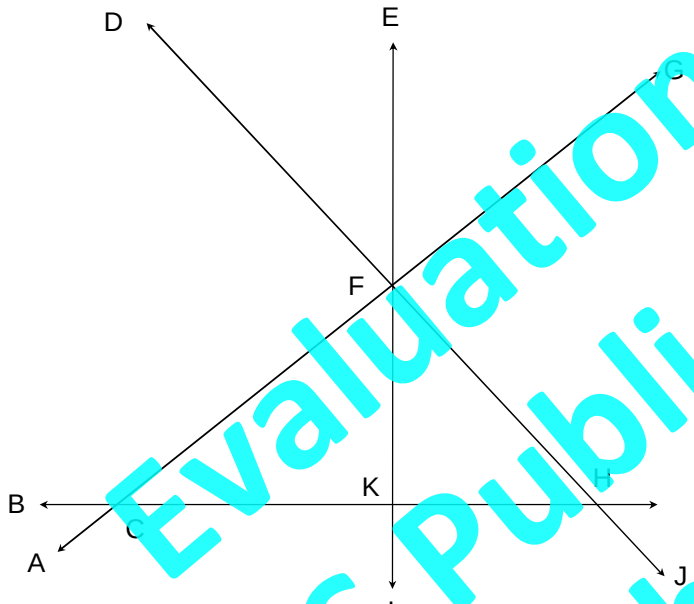
# 23 Measuring and drawing angles

Term: | Week: | AWS

The instrument for measuring and drawing angles is called a **protractor**. There are two scales on a protractor that you can use.
*Example:* Which scale do you use and what is the size of the angle drawn below?




Answer: inside scale and 60° (60 degrees)




Use a protractor to **measure** these angles

(1) ∠EFG = _____

(2) ∠HCG = _____

(3) ∠CFE = _____

(4) ∠FKH = _____

(5) ∠KHF = _____

(6) ∠JFE = _____

(7) ∠KFH = _____

(8) ∠DFE = _____

Use your angle answers above to answer these questions.

(9) **Add** ∠CFE and ∠EFG.
What do these two angles add up to and form?

_____

(10) **Add** ∠FKH, ∠KFH and ∠KHF.
What do these three angles add up to and form?

_____

**Using the line already drawn, draw** the following angles to the nearest degree, using a **protractor**.

(11) ∠ABC = 50°

A _____ B

(12) ∠DEF = 140°

D _____ E

(13) ∠LMN = 25°

M _____ L

(14) ∠RST = 105°

S _____ R

The aim of this activity sheet is to measure and draw angles accurately using a protractor and come up with two angle rules - angles in a straight line add to 180° and angles in a triangle add to 180°.

**Suggested extension activity:**
Ask your child to draw a straight line, with one line branching from the middle, measure both angles and add the answers. Repeat several times. Ask your child to draw a large triangle and measure all three angles. Repeat several times.
*Angle Rules: In both cases above, the sum of angles on a straight line and the sum of angles in a triangle add to 180°.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

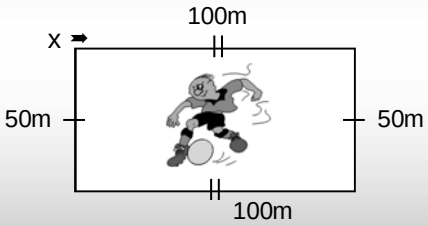
This page MUST NOT be photocopied

**Distance around the outside.**

Imagine you are at the corner of a soccer field. If you walk along each side and back to your starting point, the distance you have walked is called the **perimeter** of the field.

*Example:*

Add the length of ALL sides.

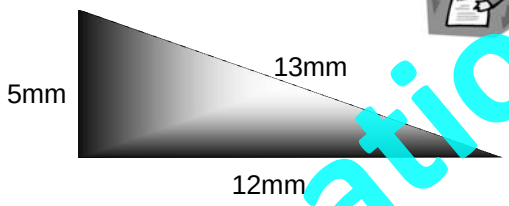



Answer: 300m

The same number of small lines on each side means that the sides are the same length, i.e. opposite sides are equal.

Look at each shape below and **work out** the **perimeter**. Remember to include all sides.

(1)



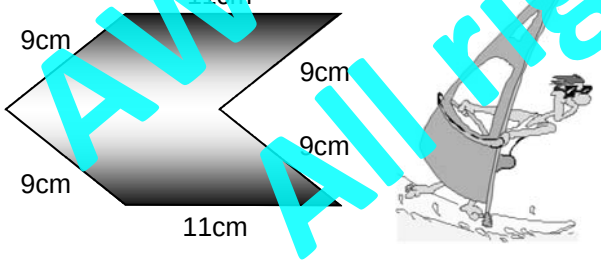

_____ + _____ + _____ = _____

(2)

Note: Opposite sides are of equal length.

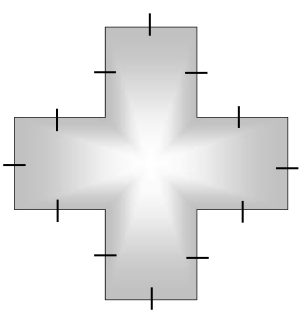
_____ + _____ + _____ + _____ = _____

(3)

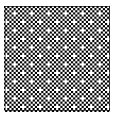


(4)

10mm



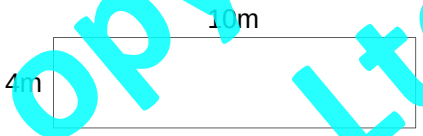
(5) All sides of a square are the same length. If the perimeter of a square is 36 metres, how long is each side?




_____

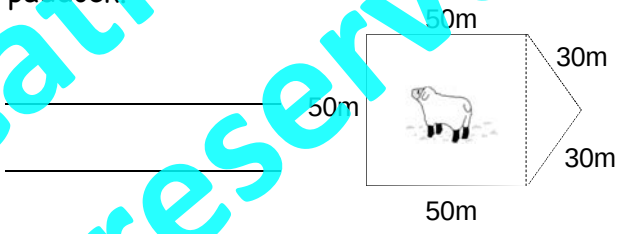
Words problems

(6) A new fence, the shape of a rectangle, is to be built around a swimming pool. If the sides are 4 and 10 metres long, what is the perimeter of the fence?




_____

(7) This diagram shows the fences around a paddock. Work out the perimeter of this paddock.

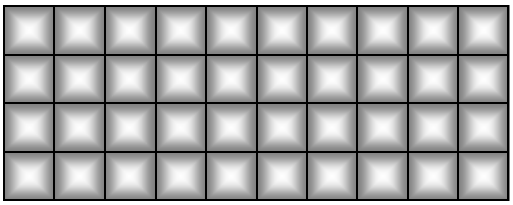



_____

_____

_____

(8) A courtyard has been built using 1 metre concrete squares, as shown in this diagram. **Work out** the **perimeter** of the courtyard.



_____

*The aim of this activity sheet is to revise perimeter, 'the distance around the outside'. All closed 2D shapes, with the starting and finishing point the same, have a perimeter.*

**Suggested extension activity:**

Find some shapes around your house, for which you can work out the perimeter.

*Example: The edge of a table, the boundaries of your properties, etc. where the starting and finishing points are in the same place.*

Ask your child to measure ALL sides of the shape using a tape measure, ruler or their own feet. By adding up all measurements, you are working out the perimeter of each shape.

Sign when completed: .....

Evaluation Copy AWS Publications Ltd All rights reserved

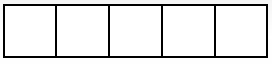
Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

"If you can paint it, it has AREA," said Robert.

This shape is made up of 1 row of 5 squares.

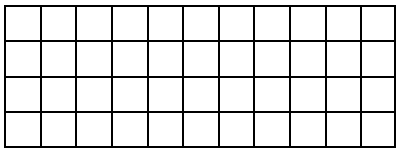
 What is the area?

If the shape was made up of 4 rows of 5 squares, what would the area be?

Answers: 5 square units, 4 x 5 = 20 square units

**Work out** the area of these rectangles by first counting the number of squares in ONE row.

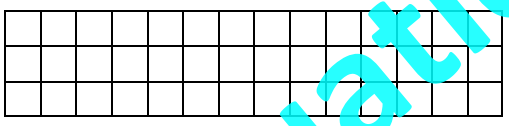
(1)



1 row = _____ squares

Area = ___ rows of _____ = _____ sq units

(2)



1 row = _____ squares

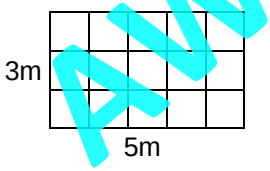
Area = ___ rows of _____ = _____ sq units

The diagrams below are not drawn to scale, but imagine that each square is 1 square metre.

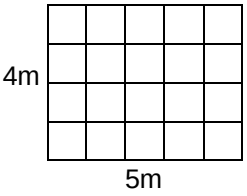
The units for your answers will be 'square m'. (Could be written as 'sq m' or $m^2$)

**Work out** the **area** of each rectangle or square.

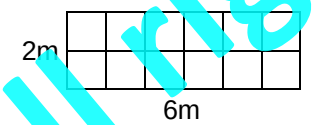
(3)



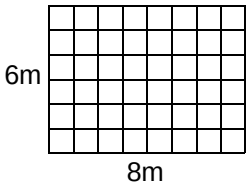

(4)



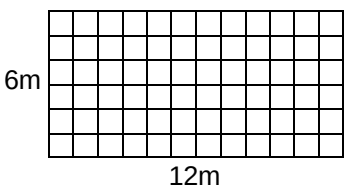

(5)



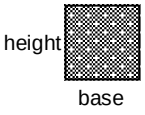

(6)




(7)

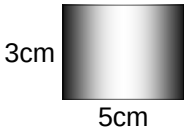



(8) How can you work out the area of these shapes without having to count all squares?




**Work out** the **area** of each rectangle ($A = bh$).

(9)



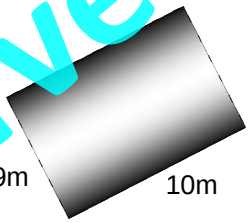

(10)

(11)

(12)

(13)

(14)




(15) What is the area of a rectangle with sides of 8 centimetres and 11 centimetres?

(16) What is the area of a square which has sides of 10 metres?

(17) If a square has an area of $49cm^2$, how long is each side of the square?

*The aim of this activity sheet is to revise the concept of area. For squares or rectangles, area is the length of the base multiplied by the length of the height (A = bh)*

**Suggested extension activity:**

Draw shapes on maths paper and ask your child to work out each area by counting or estimating the number of squares.

Ask your child to work out the area of a shape given how many squares in ONE row and how many rows. Such a shape is called a rectangle or square.

*Example: If 1 row is 5 squares long, what is the area of a rectangle made up of 3 rows. 5 + 5 + 5 = 15 or 3 x 5 = 15 sq units.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

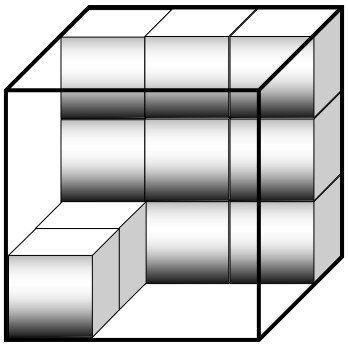
# 26 Volume

Term: | Week: | AWS

If you can fill it, it has VOLUME.

This big box is to be filled with smaller boxes (cubes).

Cubes have already been stacked at one end.



The **end stack** of this 3D shape is called the **cross-section** of the shape.

(1) How many small cubes are in this end stack? _____ cubes

(2) How many stacks of cubes will this box hold? _____ cubes

(3) Work out how many small cubes this big box will hold, called the **volume** of the box.

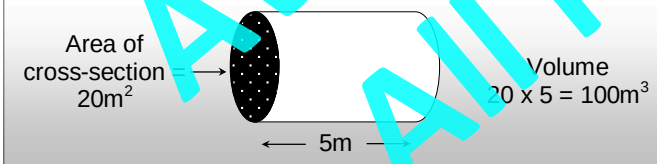
_____ cubes

(4) In a second box, the end stack can hold 12 cubes. If there are 6 stacks, how many cubes can this box hold?

_____ cubes

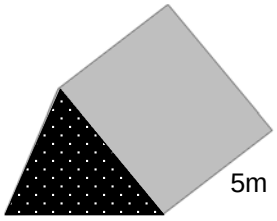
If you know the area of the **cross-section** of a 3D object, the volume can be calculated using the rule ...

**Volume = Area of cross-section × depth**



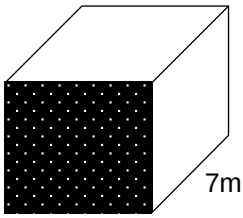

**Work out** the volume of these objects, given the area of the cross section and the depth. The volume units are written as ... **mm³**, **cm³** and **m³**.

(5)



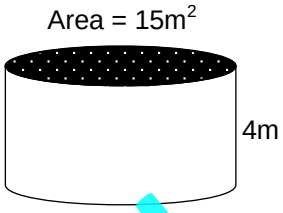

_____

(6)



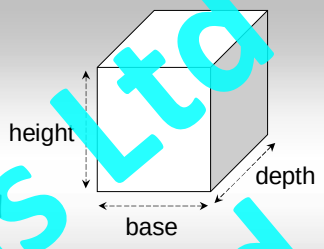

_____

(7)




_____

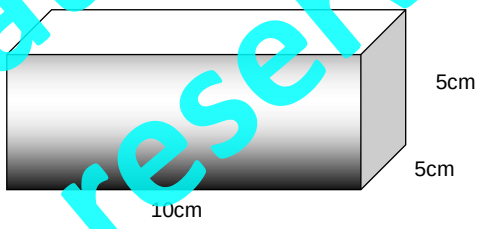
For this **3D shape**, the volume can be worked out if we know three measurements ... the **base**, the **height** and the **depth**.




**Volume = base x height x depth**

**Work out** the volume of these simple 3D shapes.

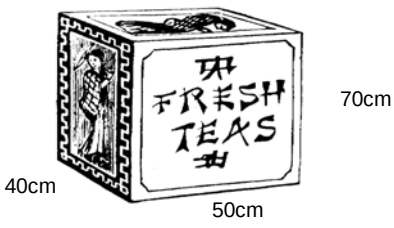
(8)




Volume = _____ x _____ x _____

= _____ $cm^3$

(9)




Volume = _____ x _____ x _____

= _____ $cm^3$

*The aim of this activity sheet is to revise the concept of volume. The volume of a simple box shape can be worked out if you know the base, height and depth.*

**Suggested extension activity:**

Find a selection of boxes around your home. Ask your child to measure the base, height and depth of each box. Use these measurements to work out the volume of each box.

*Example: A shoe box, a match box, a cake tin etc.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 27 Time

Term: | Week: | AWS

The time on this **analogue clock** is 20 past 8.

Not all clocks have hands.

Some clocks use only numbers and are called **digital clocks**.

This is 20 past 8 on a digital clock ... 08:20

**Draw** the hands on the analogue clock **or** show the time on a digital clock **or** write the time in words.

(1) Time *quarter past nine*

(2) Time _____

(3) 4:35 Time _____

What is the new time?

(4) A roast turkey takes 3½ hours to cook. If it went into the oven at 4:50 when will it be ready? (answer in words)

_____

(5) If a 45 minute TV programme finished at 25 past 6, at what time did it start? (answer as digital time)

:

(6) The school play lasted for 1¾ hours and finished at twenty past seven. At what time did it start? (answer on this clock face)

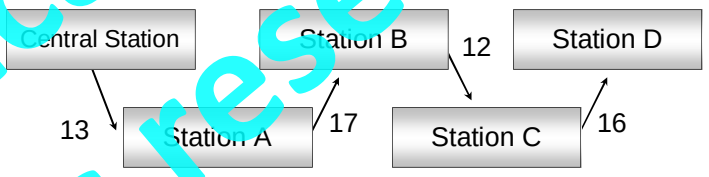
When writing **24hr digital time**, 12 is added to all times in the afternoon.

*Example: 2:45 a.m. would be written as 0245, whereas 2:45 p.m. is written as 1445.*

**Write** in the missing times, a.m., p.m. or 24hr.

| a.m or p.m. time | | 24hr time |
|---|---|---|
| 4:37 a.m. | → | (7) |
| (8) | ← | 0645 |
| 11:06 p.m. | → | (9) |
| (10) | ← | 1353 |
| 11:55 a.m. | → | (11) |
| (12) | ← | 2248 |
| 12:08 a.m. | → | (13) |

The numbers of this diagram show the time (minutes) it takes for a train to travel between stations.




(14) If the train leaves at 11:20 a.m, use this table to work out the time the train arrives at each station.

| Station | Time |
|---|---|
| Central Station | 11:20 a.m. |
| Station A | |
| Station B | |
| Station C | |
| Station D | |

(15) How long is the trip from Station A to Station D? _____

*The aim of this activity sheet is to work with time, convert between analogue and digital time, describe time as a.m. or p.m., 24hr time and prepare a timetable of events.*

**Suggested extension activity:**

Use both analogue time and digital time, ask your child to convert between a.m. / p.m. time and 24hr time.

*Example: 10 past 5 in the morning is the same as 5:10 a.m. or 0510*

Make up a timetable for a bus or train route. Ask your child to work out how long it takes to get between stops.

*Example: How long is the travel time if I get on the bus at 7:56 a.m. and get off at 9:07 a.m.?*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

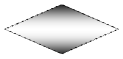


This page MUST NOT be photocopied

# 28 2-D and 3-D shapes

Term: | Week: | AWS

(1) **Name** these 2D shapes using the words on the box below.

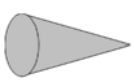
| Shape | Name of shape |
|---|---|
| | |
| | |
| | |
| | |
| | |
|  | |
| | |
| | |
| | |

octagon, oval, hexagon, square, diamond, or rhombus, pentagon, circle, rectangle, triangle

The 3D objects are based on many of the 2D shapes.

*Example:* A **cylinder** is based on a **circle**. If you stacked some 50c coins on top of each other, it would look like a cylinder.

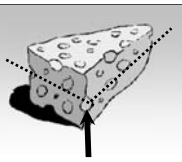
(2) **Name** these **3D** objects using the words in the box below.

| Shape | Name of shape |
|---|---|
| | |
| | |
| | |
| | |
| | |
|  | |

cylinder, cone, cube, rectangular prism (box), sphere (ball), triangular prism

This block of cheese has been sliced as shown.

What shape would the sliced end look like?



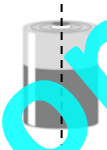
sliced here

Answer: a triangle

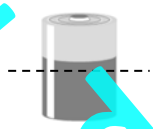
If you cut through an object, you see a **cross-section** of the object.

**Look** at these objects and **describe** what **2D shape** you would see if they were sliced along the dotted line.

(3)



(4)



(5)

(6)

(7) **Draw** a line on this 3D shape so that when it is cut, the cross-sectional 2D shape created would be an oval.

(8) **Draw** a line on this 3D shape so that when it is cut, the cross-sectional 2D shape created would be a triangle.

(9) **Draw** a line on this 3D shape so that when it is cut, the cross-sectional 2D shape created would be a rectangle.

*The aim of this activity sheet is to revise the names and features of simple 2D and 3D shapes.*

**Suggested extension activity:**

Select one of the 2D or 3D shapes on this activity sheet. Describe the shape by it's features and ask your child to draw and name the shape.

*Example: I have four corners, all my four sides are the same length. (Answer: It could be a square or a rhombus)*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



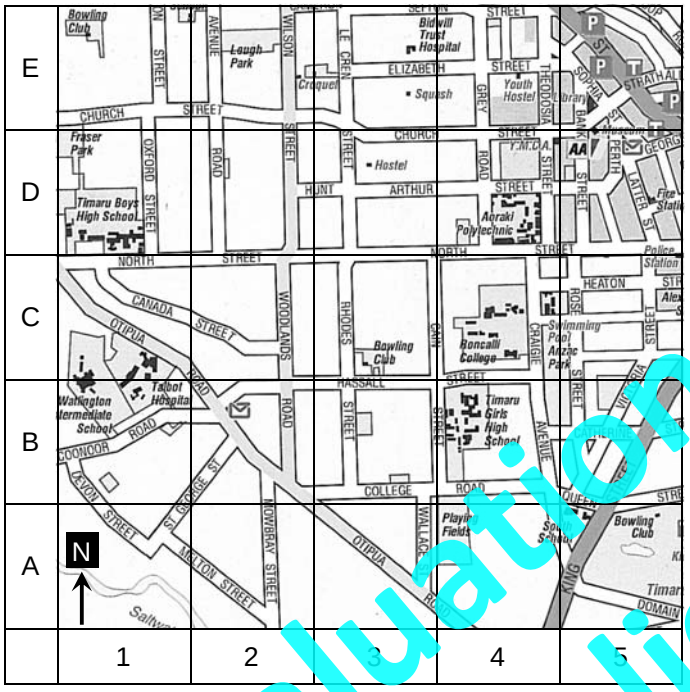
This page MUST NOT be photocopied

# 29 Reading map (grid) references

Term: | Week: | AWS

"Where is Talbot Hospital?" asked Alex.
The map below is divided up into squares.
Along the sides of the map are numbers and letters. By using these numbers and letters, you can find a place on the map.

Answer: Talbot Hospital is in the square 1B.
1B is called a grid reference.




Use the grid references on this map above to find these streets or places. Some answers may be more than one grid reference.

(1) What park is in the grid reference 2E? _____

(2) **Name** the grid reference for Roncalli College. _____

(3) **Name** the grid references for the bowling clubs. _____

On the map, north is marked by the arrow. Use the compass bearings to answer these questions.

(4) Is the playing field in 4A north or south of Timaru Girls High School? _____

(5) Is Fraser Park north or south of Timaru Boys High School? _____

(6) **Name** the school that is east of the bowling club on Hassall Street. _____

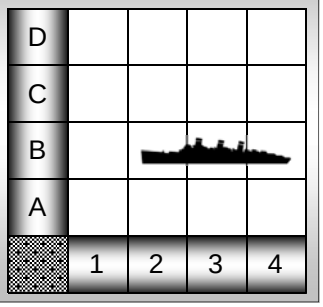
(7) **Name** a street that runs **parallel** to North Street, but is south of North Street.

_____

Battleships is a game played on a grid, using grid references to find where ships have been placed on the grid.

On what squares is this battleship placed?

Answer: 2B, 3B and 4B




Below is a battleship grid where …
S = submarine (1 square),
D = destroyer (3 squares),
A = aircraft carrier (4 squares)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| J | | | | | | | | | | |
| I | | S | | | | | | | A | |
| H | | | | | | | | | A | |
| G | | | | D | D | D | | | A | |
| F | | | | | | | | | A | |
| E | | | | | | | | | | |
| D | | | | | | | | | | |
| C | D | D | D | | | | S | | | |
| B | | | | | | | | | | |
| A | | | S | | | | | | | |

(8) **Mark** these squares on the grid with an X.
9A, 8H, 4G, 3B, 8F, 6G, 9J, 1F, 2B, 5G, 10B

(9) **Name** any ship you have crossed out.

_____

(10) **Write** the grid reference for where the aircraft carrier and submarines are placed on the grid.

_____

*The aim of this activity sheet is to learn how to locate places on a map that has been divided up into squares or grids and describe the position using compass bearings. The numbers / letters along the side are called grid references.*

**Suggested extension activity:**
Using a city street map or country map, ask your child to locate various places using a grid reference.

Create your own maps divided into squares or girds on which points can be located or play a game of battleships as above.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

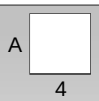
Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 30 Finding location using co-ordinates

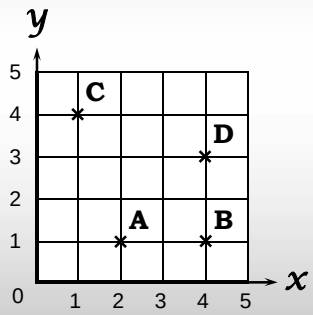
Term: | Week: | AWS

A map **grid reference**, such as 4A, refers to anything within the area.



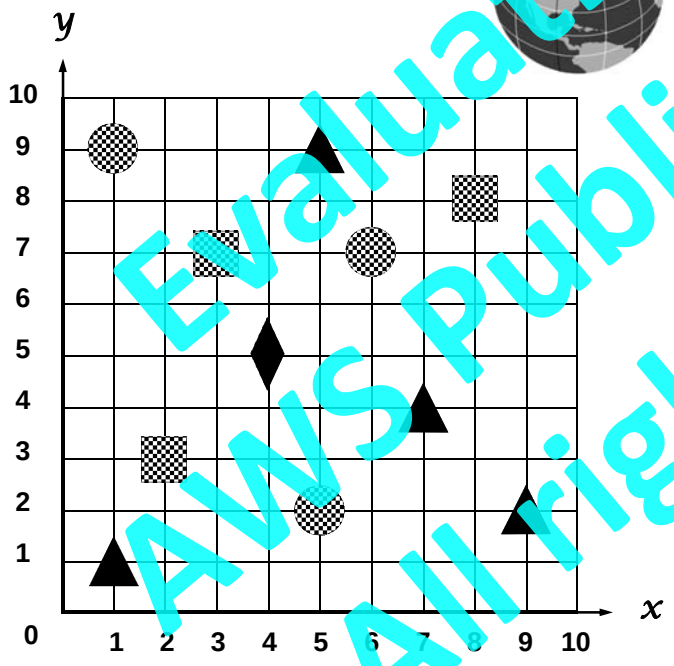

However, when a mathematical graph is drawn and co-ordinates are used, the **co-ordinates** refer to exactly where the lines cross.
*Example:* A = (2,1), B = (4,1) and C = (1,4).

Each pair of numbers in the brackets are called **order-pairs** or **co-ordinates**.
The first number (x-axis) is across and the second number (y-axis) is up / down.




What are the co-ordinates for the point D
Answer: (4,3)

On this graph there are various mathematical shapes drawn.

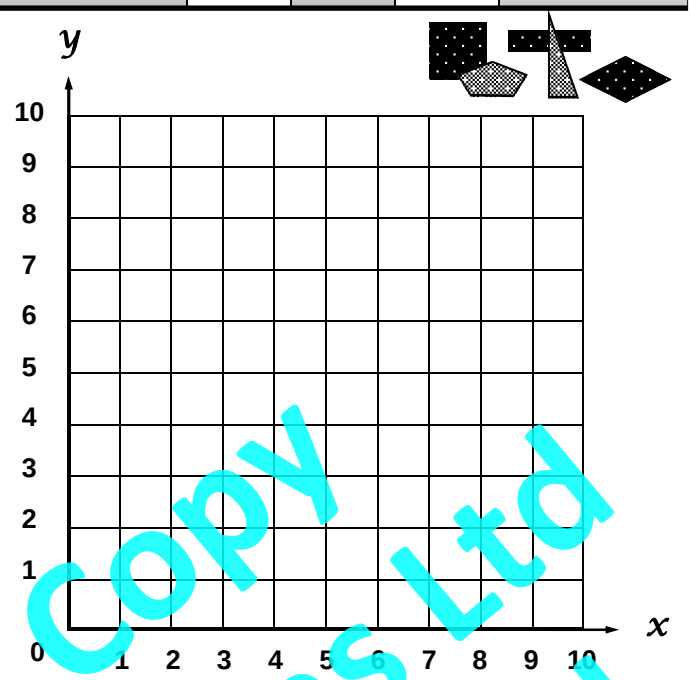



(1) What shape is at the point (4,5)?

(2) **Write** the co-ordinates to locate all the squares.

(3) **Write** the co-ordinates to locate all the circles.

(4) **Write** the co-ordinates to locate all the triangles.




**Plot** each set of points on the graph, **joining** the points in order with straight lines.

(5) (2,3), (1,6), (1,3) and (2,3)
What shape have you drawn?

(6) (5,9), (3,9), (3,7), (5,7) and (5,9)
What shape have you drawn?

(7) (8,9), (10,8), (9,7), (7,7), (6,8) and (8,9)
What shape have you drawn?

(8) (9,4), (9,5), (5,5), (5,4) and (9,4)
What shape have you drawn?

(9) (3,2), (5,3), (7,2), (5,1) and (3,2)
What shape have you drawn?

*The aim of this activity sheet is to introduce ordered pairs, known as the co-ordinate system for locating points on a graph. Note: Order is important .... (x,y) or (across, up/down).*

**Suggested extension activity:**
Using maths paper, create a graph on which points can be drawn. Having marked points on the graph, ask your child to locate each point, describing each position as an ordered pair or co-ordinates.

Create some ordered pairs and ask your child to plot each point on a new graph, such as above.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

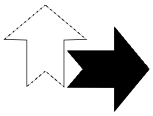
# 31 Rotation & reflection

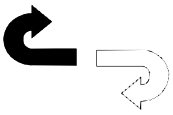
Term: Week: AWS

When talking about **rotation**, we use words such as **clockwise**, **anti-clockwise** ...

... **quarter** turn and **half** turn to describe how an object has been moved.

**Describe** how each arrow or pattern has been rotated. The black arrow is the new position.

(1) 

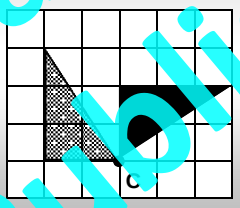
(2) 

(3)

To rotate a shape or an object, you need an **angle of rotation** and a **centre of rotation**.

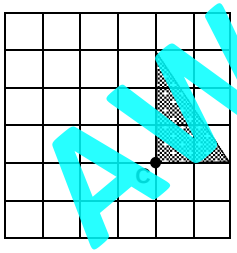
*Example: The shaded triangle (object) has been rotated ¼ turn (90°) clockwise about point C.*

The new postion of the triangle is the black shape, called the image.



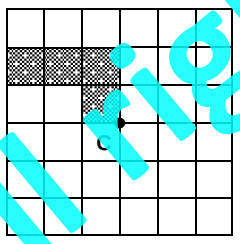

**Draw** the new position of each shape after it has been **rotated** as directed.

(4)



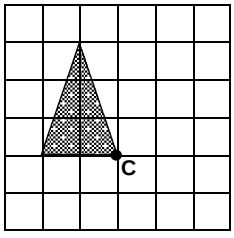

Rotate this shape a quarter turn (90°) anti-clockwise about point C.

(6)



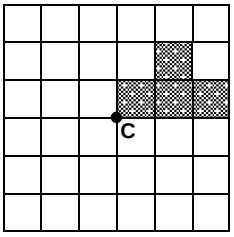

Rotate this shape a half turn (180°) clockwise about point C.

(5)




Rotate this shape a quarter turn (90°) clockwise about point C.

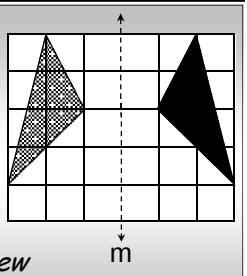
(7)




Rotate this shape a half turn (180°) anti-clockwise about point C.

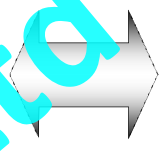
For a shape to be reflected, there must be a **mirror line (m)**. The mirror line is often shown as an arrow.

*Example: The shaded triangle (object) has been reflected to its new position, the black triangle, called its image.*




**Draw** a line(s) to show where the **mirror line**(s) would go to reflect these shapes.

(8)

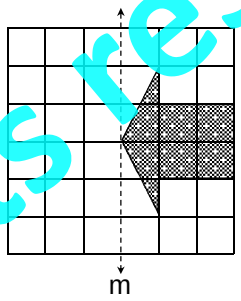
(10) 

(9)

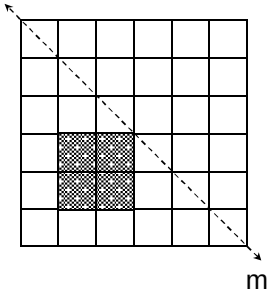
(11)

**Draw** the new position of each shape after it has been **reflected** in the mirror line.

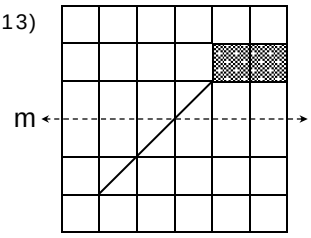
(12)



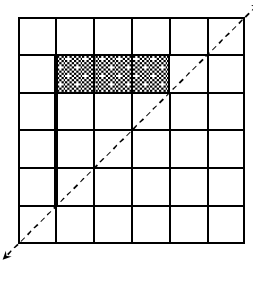

(14)




(13)




(15)



*The aim of this activity sheet is to revise rotation and reflection. Rotations can be described using various words and reflections require a mirror line.*

**Suggested extension activity:**

Looking around your home, ask your child to point out designs that have been created by either rotating a pattern or reflecting a pattern.

*Example: Wallpaper or floor tile patterns.*

Ask your child to create their own designs using rotation or reflection and have them describe how they created their design.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



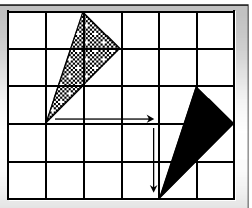
This page MUST NOT be photocopied

# 32 Translation & enlargements

Term: ____ Week: ____ AWS

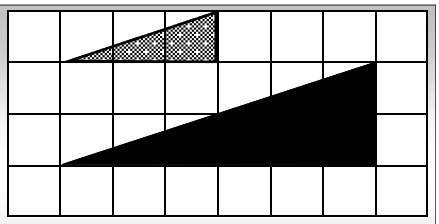
This grey triangle (object) has been moved by sliding it to a new position (image).

*Example: 3 squares right, then 2 squares down.*



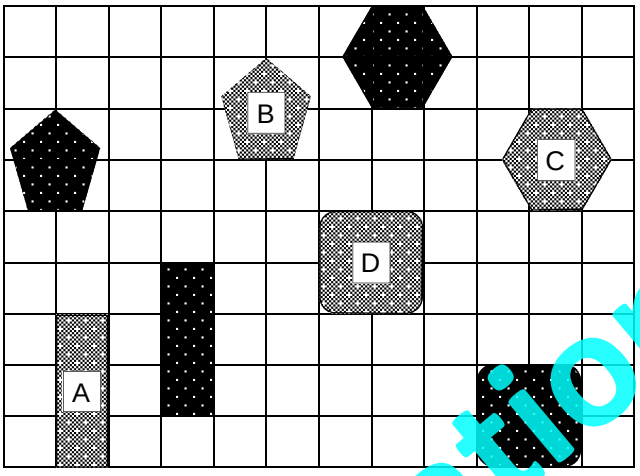
Such a movement is called a **translation**.

Sam used maths paper to draw this small grey triangle (object) twice as big (black image).



Each side of the triangle is twice as long and has been enlarged by a **scale factor** of 2.

**Describe** how each grey shape (object) has been **translated** to its new position (black image).




(1) A _____

(2) B _____

(3) C _____

(4) D _____

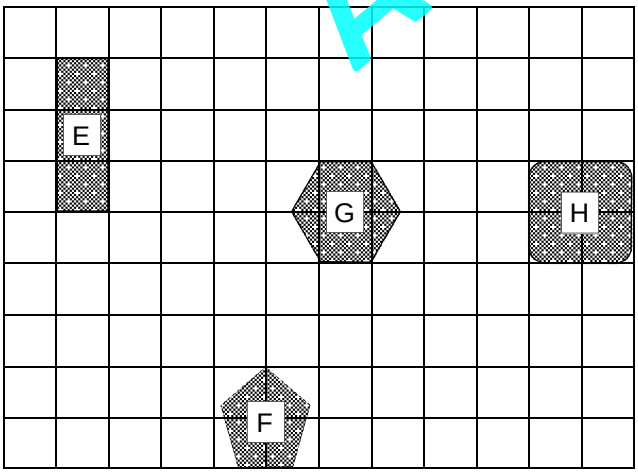
(5) **Draw** the new position of each shape after it has been **translated**.

Shape E - 3 squares right, 2 squares down

Shape F - 4 squares left, 1 square up

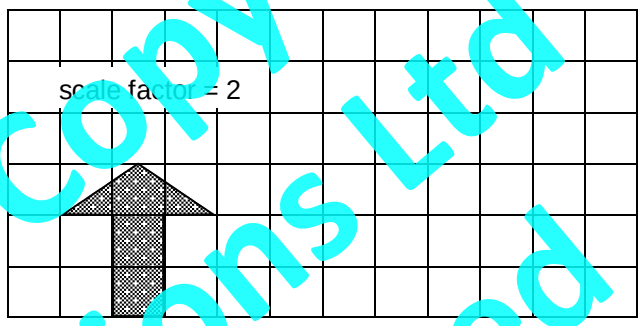
Shape G - 2 squares right, 3 squares up

Shape H - 1 square left, 4 squares down

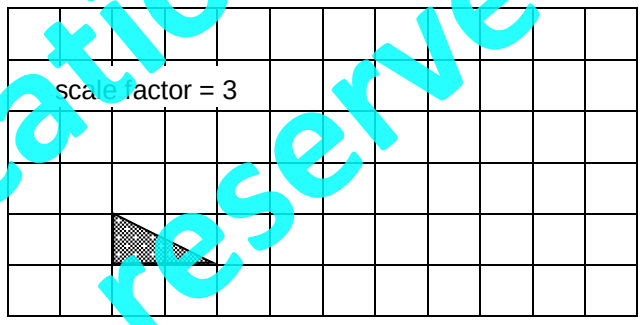



**Draw** each shape after it has been **enlarged** by the **scale factor** given.

(6)

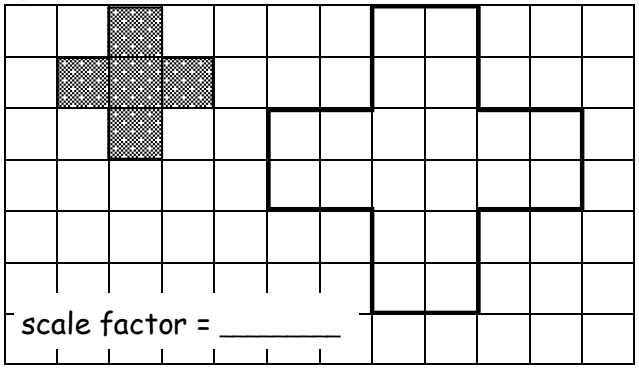



(7)




Look at the enlargement below and work out the scale factor. The grey shape is the object.

(8)



*The aim of this activity sheet is to revise translation and enlargement. Translation involves sliding the same object to a new position. For enlargement, the shape changes size but does not slide, flip or rotate.*

**Suggested extension activity:**

Looking around your home, ask your child to point out groups of objects that demonstrate translation or enlargement.

*Example: A picket fence, strips of wallpaper, a line of bottles in a row.*

Draw various patterns that involve sliding or translation and using maths paper, draw designs involving enlargement.

Sign when completed: _____

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

"Which sport do pupils in Room 5 like to play more, soccer or rugby?" asked Sam.

To answer this question, Sam conducted an investigation by asking a simple question ...
*"Do you prefer to play soccer or rugby?"*

Consider this question ...
*"Which is the most popular TV programme that pupils in your class watch?"*

(1) As you investigate this question, how would you collect, record and organise your data?

(2) What data **displays** or **graphs** could you use to display your results?

(3) **Draw** the **table** that you would use to **collect** the data and either collect some data or **make up** some data.

(4) **Draw** a **column graph**, **pictogram** or **dot plot** to the display your results in **Q3**.

(5) **Write** one statement about your results.

Avondale Intermediate investigated ...
*"What winter sport do pupils like best?"*

S = soccer
R = rugby
H = hockey
B = basketball

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | H | R | S | R | S | R | R | B | R | S | S | R |
| B | R | R | S | R | B | H | S | H | S | R | B | R |
| S | R | B | H | R | S | R | S | R | H | R | S | S |
| R | R | S | S | H | B | R | H | S | B | R | H | B |

(6) Look at the results of their investigation. **Write** 4 points based on these results.

*The aim of this activity sheet is to look at ways a simple investigation can be conducted and at the ways data can be collected and displayed.*

**Suggested extension activity:**
Make up an investigation. Ask your child to come up with questions that could be asked, who is going to be asked and how the data is to be collected and displayed.

*Example: What is the most popular holiday place in New Zealand?*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 34 Sorting data using tally charts

Term: ____ Week: ____ AWS

This tally chart shows the number of cats and dogs Room 5 pupils have as pets.

How many pet cats and dogs do they have?

Answers: 12 cats & 8 dogs

(Remember 𝍸 = 5)

| Pet | Tally | Total |
|---|---|---|
| cat | 𝍸 𝍸 II | ? |
| dog | 𝍸 III | ? |
| | | ? |

Ryan conducted a survey.
He asked pupils in Rooms 7 and 8 …
"How many pets do you have at home?"

(1) Use the tally chart below to organise the data he collected.

Number of pets

2, 3, 1, 4, 6, 2, 3, 5, 1, 4, 2, 3, 4 ,1 ,2 ,0, 2, 4, 1, 2, 3, 3, 3, 2, 1, 3, 3, 0, 3, 4, 1, 2, 3, 2, 3, 1, 4, 1, 5, 4, 0, 2, 3, 1, 3, 2, 5, 0, 2, 3, 5, 2, 5, 4, 0

Make a mark in the **tally column** next to each number as you go through the list above.

| Number of pets | Tally | Total |
|---|---|---|
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| | | |

(2) How many pupils had 2 pets? _____

(3) How many pupils had 5 pets? _____

(4) What was the most common number of pets pupils had? _____

(5) What was the least common number of pets pupils had? _____

(6) How many pupils had 7 pets? _____

(7) How many pupils did Ryan survey? _____

Mr McGregor has been growing tomato plants for years.

One day he counted the number of tomatoes on each plant.

These were his results.

Number of tomatoes per plant

8, 7, 8, 9, 10, 5, 6, 5, 8, 6, 4, 6, 8, 7, 9, 4, 5, 6, 9, 5, 7, 4, 10, 9, 5, 8, 9, 10, 5, 6, 9, 5, 7, 8, 6, 7, 10, 7, 5, 6, 8, 9, 6, 7, 8, 7, 9, 6, 7, 7, 6, 8, 9, 10, 9, 7,

(8) **Complete the tally chart** below to organise this data.

| Number of tomatoes per plant | Tally | Total |
|---|---|---|
| 4 | | |
| 5 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

(9) What was the most common number of tomatoes on each plant? _____

(10) What was the least common number of tomatoes on each plant? _____

(11) How many tomato plants did Mr McGregor have altogether? _____

*The aim of this activity sheet is to organise and sort data using tally charts, then answer questions appropriate to the data.*

**Suggested extension activity:**

Collect information that can be presented in a table. This may require you to ask extended family or friends to answer some questions to collect the data. Then ask your child questions that relate to the data.

*Example: A table showing favourite foods your family / friends eat.*

Create your own tables, with made up data and then ask your child to talk about the data in the table.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

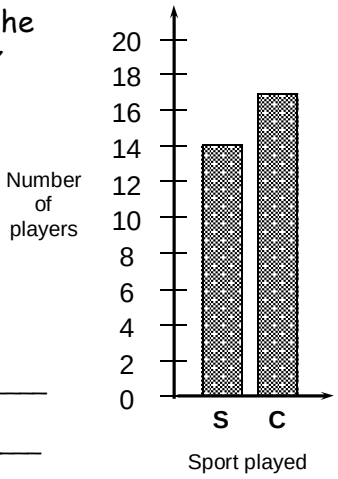
Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

Data can be displayed in many ways.

This **column graph** shows the number of pupils in Room 7 who play softball (S) and cricket (C) on Saturdays.




(1) How many play softball and how many play cricket?

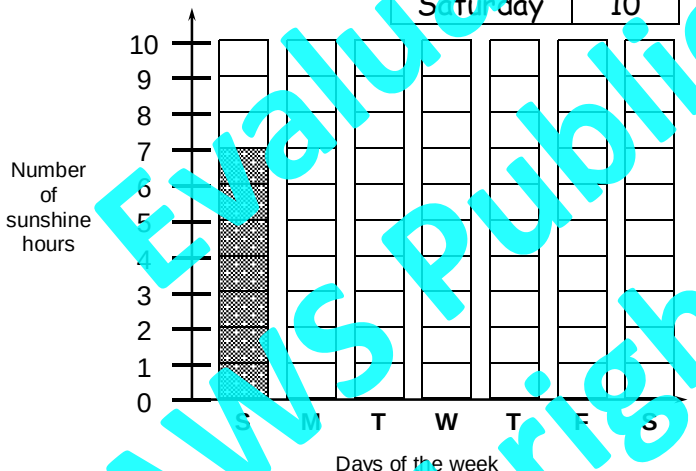
softball (S) = _____

cricket (C) = _____

This table shows the number of sunshine hours per day for a week.

| | Total |
|---|---|
| Sunday | 7 |
| Monday | 4 |
| Tuesday | 5 |
| Wednesday | 6 |
| Thursday | 9 |
| Friday | 8 |
| Saturday | 10 |

(2) **Complete** this **column graph** using the data in the table.




(3) How many hours of sunshine were there on Wednesday? _____

(4) On which day was it sunny for 8hrs? _____

(5) How many hours of sunshine occurred this week? _____

This **pictogram** shows the number of pet cats and dogs Room 3 pupils have.

Key: 1 picture = **2** pets

(6) How many pet cats and pet dogs do they have?

cats = _____

dogs = _____

This table shows the number of vowels used in the first 50 words of a novel.

| | a | e | i | o | u |
|---|---|---|---|---|---|
| Total | 48 | 42 | 33 | 27 | 18 |

(7) **Draw** a **pictogram** using the data in the table.

a:

e:

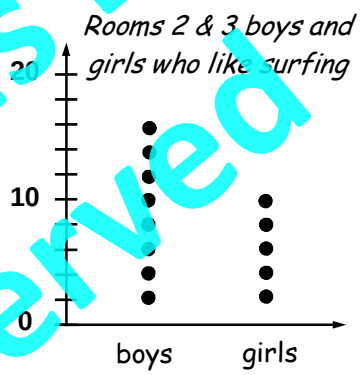
i:

o:

u:

Key: 1 picture = 6 vowels

This **dot plot** graph shows the number of boys and girls in Rooms 2 & 3 who like surfing.



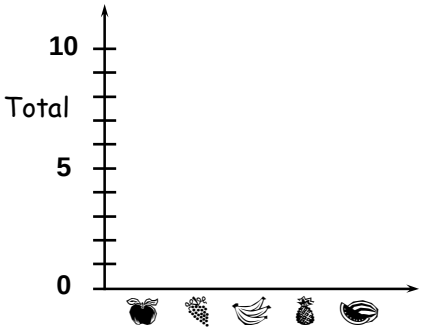

(8) How many boys and how many girls like surfing?

boys = _____

girls = _____

(9) **Draw** a **dot plot graph** for the data in the table below.

| Fruit | Total |
|---|---|
| | 7 |
| | 8 |
| | 10 |
|  | 5 |
| | 9 |



*The aim of this activity sheet is to create three different data displays - a column graph, a pictogram and a dot plot graph, and answer questions appropriate to the data.*

**Suggested extension activity:**

Using data collected from around your home or the data in the tally charts in Worksheet 34, have your child create some column graphs or pictograms. For pictograms involving large groups of data, each picture can be worth more than one.

*Example: If there were 30 items, by making each picture worth 5, only 6 pictures would be drawn.*

Sign when completed: _____

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 36 Stem and leaf graphs & time series graphs

Term: ____ Week: ____ AWS

A **stem and leaf graph** looks a bit like a leaf.
*Example:* Robert weighed 12 tomatoes, to the nearest milligram.

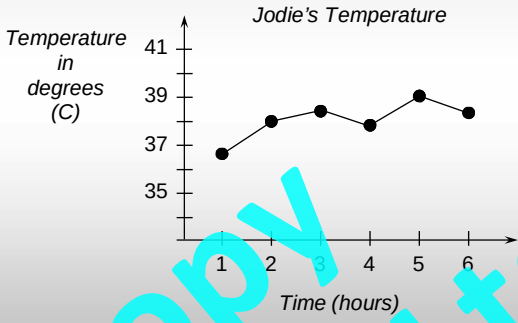
19, 21, 18, 32, 28, 17, 25, 23, 31, 24, 26, 16

As these numbers are in the 10's, 20's and 30's, the numbers **1**, **2** and **3** go in the '**stem**' part of the graph.

| | |
|---|---|
| 1 | 9, 8, 7, 6 |
| 2 | 1, 8, 5, 3, 4, 6 |
| 3 | 2, 1 |

The second numbers form the '**leaf**' part of the graph and are added to the graph in the order listed.

Data that changes with time can be graphed on a **time-series graph**.
*Example:* Jodie has been unwell. She recorded her temperature every hour for 6 hours.
These results are shown on the graph.



What was Jodie's highest temperature? (39°C)

Matthew recorded the number of runs each batsman scored in a cricket match, in a stem and leaf graph.

| | |
|---|---|
| 0 | 7 |
| 1 | 5, 9 |
| 2 | 3, 7 |
| 3 | 8 |
| 4 | 8, 2, 4, 9, |
| 5 | 3, 0 |

(1) How many runs did each batsman score, as shown in this stem and leaf graph?

_____, _____, _____, _____, _____, _____,

_____, _____, _____, _____, _____, _____

(2) What was the highest score? _____

(3) What was the lowest score? _____

(4) How many runs did the team score altogether ? _____

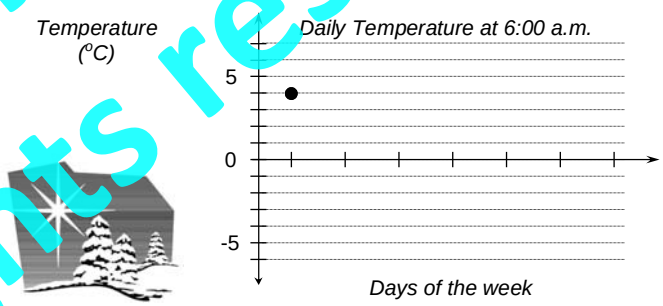
(5) **Draw** a stem and leaf graph for the numbers in this box.
(Note: The first two digits go in the stem.)

123, 139,
117, 141,
135, 126,
149, 115,
120, 134,
130, 127

Starting on Sunday, each day for a week the air temperature (°C) at the airport at 6:00 a.m. was recorded. These were the results.

| | | | | | | |
|---|---|---|---|---|---|---|
| 4°C | -3°C | 0°C | -2°C | 7°C | 4°C | -1°C |

(6) **Complete** the **time series graph** by **plotting** the data in the table, joining each point with a straight line.






(7) What was the temperature on Thursday? _____

(8) What was the difference in temperature between the coldest and warmest morning?

_____

*The aim of this activity sheet is to understand and draw stem & leaf graphs and time series graphs.*

**Suggested extension activity:**
Collect or make up data that can be presented as a stem & leaf graph. This is normally a list of data numbers that have been collected by counting or measuring something. Create some stem & leaf graphs.

Collect or make up data that can be presented as a time series data. Time series data change over time, such a temperature, heights of plants or the weight of a pet etc. Create some time series graphs.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

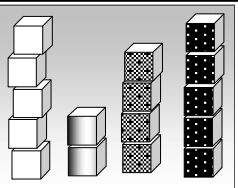
Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 37 Finding the mean (average) and the range

Term: ____ Week: ____ AWS

Here are four piles of blocks.



If all piles had the same number of blocks, how many blocks would there be in each pile?

Add the number of blocks in all piles (5 + 2 + 4 + 5 = 16), then divide your answer by the number of piles (16 ÷ 4 = 4).
Answer: 4 blocks in each pile.

By doing this, you are finding out the **'mean'** or average number of blocks in each pile.

**Work out** the **mean** or average of each group of numbers.
Question 1 has been done for you.
Add up all 4 numbers, then divide your answer by 4.

(1) 9, 5, 6, 8 *9 + 5 + 6 + 8 = 24, 24 ÷ 4 = 6*

(2) 8, 10, 6 _____

(3) 5, 9, 10, 8 _____

(4) 5, 12, 8, 9, 11 _____

(5) 13, 5, 10, 12, 5 _____

(6) 18, 14, 16, 12 _____

(7) 33, 29, 31 _____

(8) 63, 143, 97 _____

(9) 18, 13, 8, 2, 11 _____

(10) 143, 161, 116 _____

Jack likes to go for bike rides in the weekend. The distances of his bike rides were for 13, 21, 17, 32, 20 and 29 kilometres.

(11) How many bike rides did Jack go on? _____

(12) What is the total distance that Jack biked during his rides? _____

(13) What is the **mean** distance of Jack's bike rides? _____

Jody recorded the money she was paid for baby sitting , as shown below.

**$12, $15, $10, $18, $23, $17, $15, $20, $23**

(14) **Work out** the **mean** payment for Jody's baby sitting. _____

In a running race, the fastest time was 39 minutes and the slowest time was 57 minutes.

The difference between the fastest and slowest time is called the **range**.

*Example: 57 - 39 = 18 minutes.*

In this running race, the **range** of the times was 18 minutes. (Range = largest number - smallest number)

**Work out** the **range** of each group of numbers.

(15) 10, 6, 7, 9, 11, 7, 8, 5, 3 *11 - 3 =* _____

(16) 11, 17, 23, 31, 9, 12, 15, 8, 10 _____

(17) 43, 75, 92, 34, 17, 20, 74 _____

(18) 86, 44, 73, 22, 94, 53, 16 _____

(19) 62, 95, 120, 53, 242, 77 _____

(20) 74, 23, 99, 134, 451, 315, 12 _____

Some of the pupils in Room 3 have had their weight measured in kilograms, as shown below.

**57.3, 46.8, 41.7, 62.7, 55.3, 49.1, 48.7, 50.2, 44.5**

(21) **Work out** the **range** of weights for these pupils. _____

The lowest daily temperature for a week is shown in the table below.

**12°C, 5°C, 9°C, 0°C, −3°C, 6°C, −5°C**

(22) **Work out** the **range** of these temperatures. _____

*The aim of this activity sheet is to work out the mean or average for a list of numbers or scores and work out how spread out the scores are, called the range.*

**Suggested extension activity:**
Collect or create a list of scores (numbers) and using these scores, work out the mean (average) and range of the scores.

*Example: The hours spent playing computer games etc.*

We sometimes call the **mean** the 'average', but there are two more types of 'averages' called the **medium** and the **mode**, that you will learn about on the next worksheet.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 38 Finding the median and the mode

Term: | Week: | AWS

Another type of 'average' is called the **median**.

The **median** is the middle score, once the scores have been placed in **order** from smallest to largest.

Example: 3, 4, 6, 7, **8**, 9, 13, 21, 35

As these scores are in order, start counting one score off each end until you reach the middle.

The **median** (middle) score for this list is 8.

**Work out** the **median** for each list of scores.
Remember the score MUST be in order from smallest to largest.

(1) 5, 8, 15, 18, 23 _____

(2) 8, 10, 13, 18, 19, 27, 33 _____

(3) 21, 29, 35, 37, 48, 53, 67 _____

(4) 21, 14, 18, 26, 32 _____

(5) 45, 23, 56, 76, 13, 26, 9 _____

If there is an even number of scores, there will be two scores left in the middle.
The **median** is half way between these scores.
*Example: 5, 6, 9, 13 (6 & 9 are in the middle)*
*Median = 7½ (6 + 9 = 15, 15 ÷ 2 = 7½)*

**Work out** the **median** for each list of scores

(6) 11, 13, 19, 24 _____

(7) 7, 11, 15, 25, 32, 41 _____

(8) 13, 19, 26, 42, 57, 69, 75, 79 _____

(9) 25, 16, 32, 19 _____

(10) 32, 45, 12, 56, 18, 67 _____

In one week the pupils in Room 7 each read some books, as shown below.

**4, 1, 3, 2, 3, 4, 1, 2, 3, 2, 4, 2, 3**

(11) **Work out** the **median** number of books read?

_____

_____

Another type of 'average' is called the **mode**.

The **mode** is the most common score.

*Example: This list shows the shoe size of shoes sold this week.*

7, 9, 8, 9, 6, 10, 9, 8, 9, 10, 9, 7, 9

What is the most common size sold?

The most common size was 9, therefore the **mode** for these scores is 9.

There can be more than one mode for a list.

**Work out** the mode for each list of scores.
There may be more than one answer.

(12) 4, 4, 5, 5, 5, 6, 6, 8, 9, 9, 11 _____

(13) 10, 10, 8, 9, 5, 8, 9, 7, 8 _____

(14) 13, 7, 9, 10, 7, 8, 7, 10, 11, 10, 7 _____

(15) 5, 3, 7, 5, 3, 5, 3, 5, 4, 6, 8, 3 _____

(16) 10, 7, 9, 7, 5, 10, 5, 7, 2, 10, 5 _____

Every time a T-shirt is sold, its size is noted. Below is a list of the sizes sold.

**12, 10, 8, 8, 12, 8, 8, 10, 10, 8, 12, 8**

(17) **Work out** the **mode** size for the T-shirt sales. _____

(18) Work out the **median** T-shirt size?

_____

(19) Which average is more helpful to the shop keeper, the **mode** or the **median**? Why?

_____

_____

_____

*The aim of this activity sheet is to work out two different types of 'averages' - median and the mode. The median is the middle score, given the scores are in order. The mode is the most common score (there may be more than one).*

**Suggested extension activity:**
Collect or create a list of scores (numbers) and using these scores, work out the median and mode of the scores.
*Example: The height of people in your family or their shoe sizes.*
Depending on what you are dealing with, one type of 'average' will be more suitable than another.

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd

This page MUST NOT be photocopied

# 39 Finding outcomes

Term: | Week: | AWS

An **outcome** is what happens when you have a choice.

Sometimes finding all possible outcomes can be difficult. Using a **box** or **grid** can help.

*Example: Two coins are tossed in the air.*

| | Head (H) | Tail (T) |
|---|---|---|
| Head (H) | HH | HT |
| Tail (T) | TH | TT |

How many outcomes are there?

Answer: four .... HH = head/head, HT = head/tail, etc.

This grid shows the choices Mark had as to when he would go to the movies and what type of movie he would see.

| | Friday (F) | Saturday (Sa) |
|---|---|---|
| Horror (H) | H / F | H / Sa |
| Comedy (C) | C / F | C / Sa |
| Action (A) | A / F | A / Sa |

(1) If Mark's choice was C / F, what does it mean?

(2) How many choices (outcomes) does Mark have? _____

For lunch, Aimee has a choice of either a ham roll (HR), a salad roll (SR) and a choice of either an apple (A), an orange (O), a pear (P) or a banana (B).

(3) Guess how many possible food choices or outcomes you think Aimee has for lunch? _____

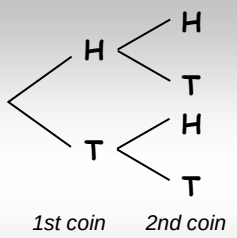
(4) **Draw** a **table** to help work out what Aimee can eat at lunchtime. (Write letters only)

(5) What does SR/O mean?

(6) List all possible choices.

(7) How many choices (outcomes) does Aimee have? _____

**Tree diagrams** are another way of working out all possible outcomes.

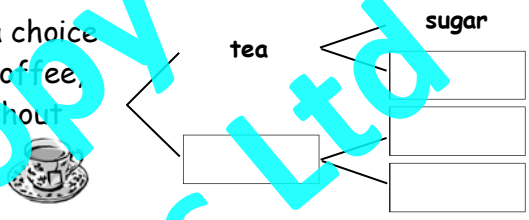



*Example: Two coins are tossed in the air, list all possible outcomes.*

By following each **branch** of the tree, you can work out all outcomes.

Answer: HH, HT, TH, TT (4 outcomes)

Carol has a choice of tea or coffee, with or without sugar.



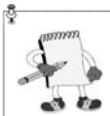

(8) **Write** in the missing words to complete this tree diagram to show all possible outcomes.

(9) Use the tree diagram to list all possible choices or outcomes

Andrew has to make a dentist's appointment for either Tuesday, Thursday or Friday, either in the morning or the afternoon.

(10) **Draw** a **tree diagram** to show all possible outcomes.

(11) How many possible outcomes are there? _____



*The aim of this activity sheet is to work out all possible outcomes given an event using grids or tree diagrams. The **event** can be as simple as tossing a coin, where there are two possible **outcomes**, heads or tails.*

**Suggested extension activity:**

Create events that involve choices which your child can use grids or tree diagrams to name all possible outcomes.

*Example: You are allowed two jelly beans from this packet. List all the possible colours the jelly beans could be, i.e. red/black, red/white.*

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

# 40 Simple probability

Term: | Week: | AWS

In Room 7 there are 32 pupils.
What is the **chance** or **probability** of being selected class captain?

As there are 32 pupils in Room 7 and only one pupil can be captain, there is **1 chance in 32** of being class captain.

Written as **1 out of 32** or $^{1}/_{32}$.

(1) If there are 500 tickets, what is the chance of winning first prize?

_____ out of _____ or _____

(2) Mark has bought 20 tickets in a raffle.
If there are 800 tickets, what is the chance of his winning a prize?

_____ out of _____ or _____

(3) If you bought 2 tickets in a raffle and have a 1 out of 300 chance of winning a raffle, how many tickets are in the raffle?

_____

(4) If you roll a six sided die (dice), what is the chance that ...

... the number 1 comes up?

_____ out of _____ or _____

... an even number comes up?

_____ out of _____ or _____

... the number 7 comes up?

_____ out of _____ or _____

(5) In a bag there are 120 marbles.
If the chance of taking a white marble out of the bag is $^{1}/_{3}$
how many white marbles are in the bag?

_____

(6) If a coin is tossed 100 times,
how many times would you expect the coin to land showing heads? _____

(7) Using a coin conduct this experiment.
Toss the coin 100 times and record your results.

| Heads | Tails |
|---|---|
| | |
| Total = | Total = |

(8) Were the results what you expected?

_____

These number cards are to be used for a game of memory.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 1 | 3 | 5 | 2 | 5 | 2 | 4 |
| 1 | 4 | 2 | 4 | 1 | 5 | 1 | 3 | 4 |
| 4 | 4 | 5 | 3 | 4 | 2 | 5 | 2 | 1 |
| 2 | 4 | 1 | 3 | 4 | 1 | 4 | 2 | 4 |
| 1 | 2 | 5 | 4 | 4 | 4 | 5 | 4 | 2 |

(9) How many number 3 cards are there? _____

(10) How many number 1 cards are there? _____

(11) How many number 5 cards are there? _____

(12) How many number 2 cards are there? _____

(13) How many cards are there altogether? _____

(14) What is the chance of turning over a number 5 card?

_____ out of _____ or _____

(15) What is the chance of turning over a number 3 card?

_____ out of _____ or _____

(16) The card you have just turned over had a chance of $^{15}/_{45}$ or $^{1}/_{3}$ of being selected.
What number was on the card? _____

(17) Why do you have a greater chance of turning over a number 4 card than a number 2 card?

_____

_____

*The aim of this activity sheet is to investigate simple probability, working out the chance of something happening. Probability can be expressed as a fraction, such as ¼, which means one out of four.*

**Suggested extension activity:**

Create similar questions as on this activity sheet to reinforce simple probability.

*Example: Place 5 red, 3 green and 2 white blocks in a bag.*

Ask your child to select a particular coloured block and describe the chance of selecting that block ... 2 out of 10 chances (a white block).

Sign when completed: .....

Evaluation Copy
AWS Publications Ltd
All rights reserved

Copyright ©2007 AWS Publications Ltd



This page MUST NOT be photocopied

**Addition and subtraction facts presented in this resource:**

| Family of Facts | | | | |
|---|---|---|---|---|
| 1 | + | 1 | = | 2 |
| 2 | - | 1 | = | 1 |
| 1 | + | 2 | = | 3 |
| 2 | + | 1 | = | 3 |
| 3 | - | 2 | = | 1 |
| 3 | - | 1 | = | 2 |
| 1 | + | 3 | = | 4 |
| 3 | + | 1 | = | 4 |
| 4 | - | 3 | = | 1 |
| 4 | - | 1 | = | 3 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 2 | + | 2 | = | 4 |
| 4 | - | 2 | = | 2 |
| 1 | + | 4 | = | 5 |
| 4 | + | 1 | = | 5 |
| 5 | - | 4 | = | 1 |
| 5 | - | 1 | = | 4 |
| 2 | + | 3 | = | 5 |
| 3 | + | 2 | = | 5 |
| 5 | - | 3 | = | 2 |
| 5 | - | 2 | = | 3 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 1 | + | 5 | = | 6 |
| 5 | + | 1 | = | 6 |
| 6 | - | 5 | = | 1 |
| 6 | - | 1 | = | 5 |
| 2 | + | 4 | = | 6 |
| 4 | + | 2 | = | 6 |
| 6 | - | 4 | = | 2 |
| 6 | - | 2 | = | 4 |
| 3 | + | 3 | = | 6 |
| 6 | - | 3 | = | 3 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 1 | + | 6 | = | 7 |
| 6 | + | 1 | = | 7 |
| 7 | - | 6 | = | 1 |
| 7 | - | 1 | = | 6 |
| 2 | + | 5 | = | 7 |
| 5 | + | 2 | = | 7 |
| 7 | - | 5 | = | 2 |
| 7 | - | 2 | = | 5 |
| 3 | + | 4 | = | 7 |
| 4 | + | 3 | = | 7 |
| 7 | - | 4 | = | 3 |
| 7 | - | 3 | = | 4 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 1 | + | 7 | = | 8 |
| 7 | + | 1 | = | 8 |
| 8 | - | 7 | = | 1 |
| 8 | - | 1 | = | 7 |
| 2 | + | 6 | = | 8 |
| 6 | + | 2 | = | 8 |
| 8 | - | 6 | = | 2 |
| 8 | - | 2 | = | 6 |
| 3 | + | 5 | = | 8 |
| 5 | + | 3 | = | 8 |
| 8 | - | 5 | = | 3 |
| 8 | - | 3 | = | 5 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 4 | + | 4 | = | 8 |
| 8 | - | 4 | = | 4 |
| 1 | + | 8 | = | 9 |
| 8 | + | 1 | = | 9 |
| 9 | - | 8 | = | 1 |
| 9 | - | 1 | = | 8 |
| 2 | + | 7 | = | 9 |
| 7 | + | 2 | = | 9 |
| 9 | - | 7 | = | 2 |
| 9 | - | 2 | = | 7 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 3 | + | 6 | = | 9 |
| 6 | + | 3 | = | 9 |
| 9 | - | 6 | = | 3 |
| 9 | - | 3 | = | 6 |
| 4 | + | 5 | = | 9 |
| 5 | + | 4 | = | 9 |
| 9 | - | 5 | = | 4 |
| 9 | - | 4 | = | 5 |
| 1 | + | 9 | = | 10 |
| 9 | + | 1 | = | 10 |
| 10 | - | 9 | = | 1 |
| 10 | - | 1 | = | 9 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 2 | + | 8 | = | 10 |
| 8 | + | 2 | = | 10 |
| 10 | - | 8 | = | 2 |
| 10 | - | 2 | = | 8 |
| 3 | + | 7 | = | 10 |
| 7 | + | 3 | = | 10 |
| 10 | - | 7 | = | 3 |
| 10 | - | 3 | = | 7 |
| 4 | + | 6 | = | 10 |
| 6 | + | 4 | = | 10 |
| 10 | - | 6 | = | 4 |
| 10 | - | 4 | = | 6 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 5 | + | 5 | = | 10 |
| 10 | - | 5 | = | 5 |
| 9 | + | 2 | = | 11 |
| 2 | + | 9 | = | 11 |
| 11 | - | 2 | = | 9 |
| 11 | - | 9 | = | 2 |
| 8 | + | 3 | = | 11 |
| 3 | + | 8 | = | 11 |
| 11 | - | 3 | = | 8 |
| 11 | - | 8 | = | 3 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 7 | + | 4 | = | 11 |
| 4 | + | 7 | = | 11 |
| 11 | - | 4 | = | 7 |
| 11 | - | 7 | = | 4 |
| 6 | + | 5 | = | 11 |
| 5 | + | 6 | = | 11 |
| 11 | - | 5 | = | 6 |
| 11 | - | 6 | = | 5 |
| 9 | + | 3 | = | 12 |
| 3 | + | 9 | = | 12 |
| 12 | - | 3 | = | 9 |
| 12 | - | 9 | = | 3 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 8 | + | 4 | = | 12 |
| 4 | + | 8 | = | 12 |
| 12 | - | 4 | = | 8 |
| 12 | - | 8 | = | 4 |
| 7 | + | 5 | = | 12 |
| 5 | + | 7 | = | 12 |
| 12 | - | 5 | = | 7 |
| 12 | - | 7 | = | 5 |
| 6 | + | 6 | = | 12 |
| 12 | - | 6 | = | 6 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 9 | + | 4 | = | 13 |
| 4 | + | 9 | = | 13 |
| 13 | - | 4 | = | 9 |
| 13 | - | 9 | = | 4 |
| 8 | + | 5 | = | 13 |
| 5 | + | 8 | = | 13 |
| 13 | - | 5 | = | 8 |
| 13 | - | 8 | = | 5 |
| 7 | + | 6 | = | 13 |
| 6 | + | 7 | = | 13 |
| 13 | - | 6 | = | 7 |
| 13 | - | 7 | = | 6 |

Evaluation Copy
AWS Publications Ltd
All rights reserved

| Family of Facts | | | | |
|---|---|---|---|---|
| 9 | + | 5 | = | 14 |
| 5 | + | 9 | = | 14 |
| 14 | - | 5 | = | 9 |
| 14 | - | 9 | = | 5 |
| 8 | + | 6 | = | 14 |
| 6 | + | 8 | = | 14 |
| 14 | - | 6 | = | 8 |
| 14 | - | 8 | = | 6 |
| 7 | + | 7 | = | 14 |
| 14 | - | 7 | = | 7 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 9 | + | 6 | = | 15 |
| 6 | + | 9 | = | 15 |
| 15 | - | 6 | = | 9 |
| 15 | - | 9 | = | 6 |
| 8 | + | 7 | = | 15 |
| 7 | + | 8 | = | 15 |
| 15 | - | 7 | = | 8 |
| 15 | - | 8 | = | 7 |
| 9 | + | 7 | = | 16 |
| 7 | + | 9 | = | 16 |
| 16 | - | 7 | = | 9 |
| 16 | - | 9 | = | 7 |

| Family of Facts | | | | |
|---|---|---|---|---|
| 8 | + | 8 | = | 16 |
| 16 | - | 8 | = | 8 |
| 9 | + | 8 | = | 17 |
| 8 | + | 9 | = | 17 |
| 17 | - | 8 | = | 9 |
| 17 | - | 9 | = | 8 |
| 9 | + | 9 | = | 18 |
| 18 | - | 9 | = | 9 |

1 to 100 Number Matrix:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Evaluation Copy
AWS Publications Ltd
All rights reserved

**Multiplication & division facts presented in this resource.**

| 2x | | | | |
|---|---|---|---|---|
| 1 | x | 2 | = | 2 |
| 2 | x | 2 | = | 4 |
| 3 | x | 2 | = | 6 |
| 4 | x | 2 | = | 8 |
| 5 | x | 2 | = | 10 |
| 6 | x | 2 | = | 12 |
| 7 | x | 2 | = | 14 |
| 8 | x | 2 | = | 16 |
| 9 | x | 2 | = | 18 |
| 10 | x | 2 | = | 20 |

| 2x | | | | |
|---|---|---|---|---|
| 2 | ÷ | 2 | = | 1 |
| 4 | ÷ | 2 | = | 2 |
| 6 | ÷ | 2 | = | 3 |
| 8 | ÷ | 2 | = | 4 |
| 10 | ÷ | 2 | = | 5 |
| 12 | ÷ | 2 | = | 6 |
| 14 | ÷ | 2 | = | 7 |
| 16 | ÷ | 2 | = | 8 |
| 18 | ÷ | 2 | = | 9 |
| 20 | ÷ | 2 | = | 10 |

| 10x | | | | |
|---|---|---|---|---|
| 1 | x | 10 | = | 10 |
| 2 | x | 10 | = | 20 |
| 3 | x | 10 | = | 30 |
| 4 | x | 10 | = | 40 |
| 5 | x | 10 | = | 50 |
| 6 | x | 10 | = | 60 |
| 7 | x | 10 | = | 70 |
| 8 | x | 10 | = | 80 |
| 9 | x | 10 | = | 90 |
| 10 | x | 10 | = | 100 |

| 10x | | | | |
|---|---|---|---|---|
| 10 | ÷ | 10 | = | 1 |
| 20 | ÷ | 10 | = | 2 |
| 30 | ÷ | 10 | = | 3 |
| 40 | ÷ | 10 | = | 4 |
| 50 | ÷ | 10 | = | 5 |
| 60 | ÷ | 10 | = | 6 |
| 70 | ÷ | 10 | = | 7 |
| 80 | ÷ | 10 | = | 8 |
| 90 | ÷ | 10 | = | 9 |
| 100 | ÷ | 10 | = | 10 |

| 3x | | | | |
|---|---|---|---|---|
| 1 | x | 3 | = | 3 |
| 2 | x | 3 | = | 6 |
| 3 | x | 3 | = | 9 |
| 4 | x | 3 | = | 12 |
| 5 | x | 3 | = | 15 |
| 6 | x | 3 | = | 18 |
| 7 | x | 3 | = | 21 |
| 8 | x | 3 | = | 24 |
| 9 | x | 3 | = | 27 |
| 10 | x | 3 | = | 30 |

| 3x | | | | |
|---|---|---|---|---|
| 3 | ÷ | 3 | = | 1 |
| 6 | ÷ | 3 | = | 2 |
| 9 | ÷ | 3 | = | 3 |
| 12 | ÷ | 3 | = | 4 |
| 15 | ÷ | 3 | = | 5 |
| 18 | ÷ | 3 | = | 6 |
| 21 | ÷ | 3 | = | 7 |
| 24 | ÷ | 3 | = | 8 |
| 27 | ÷ | 3 | = | 9 |
| 30 | ÷ | 3 | = | 10 |

| 5x | | | | |
|---|---|---|---|---|
| 1 | x | 5 | = | 5 |
| 2 | x | 5 | = | 10 |
| 3 | x | 5 | = | 15 |
| 4 | x | 5 | = | 20 |
| 5 | x | 5 | = | 25 |
| 6 | x | 5 | = | 30 |
| 7 | x | 5 | = | 35 |
| 8 | x | 5 | = | 40 |
| 9 | x | 5 | = | 45 |
| 10 | x | 5 | = | 50 |

| 5x | | | | |
|---|---|---|---|---|
| 5 | ÷ | 5 | = | 1 |
| 10 | ÷ | 5 | = | 2 |
| 15 | ÷ | 5 | = | 3 |
| 20 | ÷ | 5 | = | 4 |
| 25 | ÷ | 5 | = | 5 |
| 30 | ÷ | 5 | = | 6 |
| 35 | ÷ | 5 | = | 7 |
| 40 | ÷ | 5 | = | 8 |
| 45 | ÷ | 5 | = | 9 |
| 50 | ÷ | 5 | = | 10 |

| 4x | | | | |
|---|---|---|---|---|
| 1 | x | 4 | = | 4 |
| 2 | x | 4 | = | 8 |
| 3 | x | 4 | = | 12 |
| 4 | x | 4 | = | 16 |
| 5 | x | 4 | = | 20 |
| 6 | x | 4 | = | 24 |
| 7 | x | 4 | = | 28 |
| 8 | x | 4 | = | 32 |
| 9 | x | 4 | = | 36 |
| 10 | x | 4 | = | 40 |

| 4x | | | | |
|---|---|---|---|---|
| 4 | ÷ | 4 | = | 1 |
| 8 | ÷ | 4 | = | 2 |
| 12 | ÷ | 4 | = | 3 |
| 16 | ÷ | 4 | = | 4 |
| 20 | ÷ | 4 | = | 5 |
| 24 | ÷ | 4 | = | 6 |
| 28 | ÷ | 4 | = | 7 |
| 32 | ÷ | 4 | = | 8 |
| 36 | ÷ | 4 | = | 9 |
| 40 | ÷ | 4 | = | 10 |

| 6x | | | | |
|---|---|---|---|---|
| 1 | x | 6 | = | 6 |
| 2 | x | 6 | = | 12 |
| 3 | x | 6 | = | 18 |
| 4 | x | 6 | = | 24 |
| 5 | x | 6 | = | 30 |
| 6 | x | 6 | = | 36 |
| 7 | x | 6 | = | 42 |
| 8 | x | 6 | = | 48 |
| 9 | x | 6 | = | 54 |
| 10 | x | 6 | = | 60 |

| 6x | | | | |
|---|---|---|---|---|
| 6 | ÷ | 6 | = | 1 |
| 12 | ÷ | 6 | = | 2 |
| 18 | ÷ | 6 | = | 3 |
| 24 | ÷ | 6 | = | 4 |
| 30 | ÷ | 6 | = | 5 |
| 36 | ÷ | 6 | = | 6 |
| 42 | ÷ | 6 | = | 7 |
| 48 | ÷ | 6 | = | 8 |
| 54 | ÷ | 6 | = | 9 |
| 60 | ÷ | 6 | = | 10 |

| 7x | | | | |
|---|---|---|---|---|
| 1 | x | 7 | = | 7 |
| 2 | x | 7 | = | 14 |
| 3 | x | 7 | = | 21 |
| 4 | x | 7 | = | 28 |
| 5 | x | 7 | = | 35 |
| 6 | x | 7 | = | 42 |
| 7 | x | 7 | = | 49 |
| 8 | x | 7 | = | 56 |
| 9 | x | 7 | = | 63 |
| 10 | x | 7 | = | 70 |

| 7x | | | | |
|---|---|---|---|---|
| 7 | ÷ | 7 | = | 1 |
| 14 | ÷ | 7 | = | 2 |
| 21 | ÷ | 7 | = | 3 |
| 28 | ÷ | 7 | = | 4 |
| 35 | ÷ | 7 | = | 5 |
| 42 | ÷ | 7 | = | 6 |
| 49 | ÷ | 7 | = | 7 |
| 56 | ÷ | 7 | = | 8 |
| 63 | ÷ | 7 | = | 9 |
| 70 | ÷ | 7 | = | 10 |

| 8x | | | | |
|---|---|---|---|---|
| 1 | x | 8 | = | 8 |
| 2 | x | 8 | = | 16 |
| 3 | x | 8 | = | 24 |
| 4 | x | 8 | = | 32 |
| 5 | x | 8 | = | 40 |
| 6 | x | 8 | = | 48 |
| 7 | x | 8 | = | 56 |
| 8 | x | 8 | = | 64 |
| 9 | x | 8 | = | 72 |
| 10 | x | 8 | = | 80 |

| 8x | | | | |
|---|---|---|---|---|
| 8 | ÷ | 8 | = | 1 |
| 16 | ÷ | 8 | = | 2 |
| 24 | ÷ | 8 | = | 3 |
| 32 | ÷ | 8 | = | 4 |
| 40 | ÷ | 8 | = | 5 |
| 48 | ÷ | 8 | = | 6 |
| 56 | ÷ | 8 | = | 7 |
| 64 | ÷ | 8 | = | 8 |
| 72 | ÷ | 8 | = | 9 |
| 80 | ÷ | 8 | = | 10 |

| 9x | | | | |
|---|---|---|---|---|
| 1 | x | 9 | = | 9 |
| 2 | x | 9 | = | 18 |
| 3 | x | 9 | = | 27 |
| 4 | x | 9 | = | 36 |
| 5 | x | 9 | = | 45 |
| 6 | x | 9 | = | 54 |
| 7 | x | 9 | = | 63 |
| 8 | x | 9 | = | 72 |
| 9 | x | 9 | = | 81 |
| 10 | x | 9 | = | 90 |

| 9x | | | | |
|---|---|---|---|---|
| 9 | ÷ | 9 | = | 1 |
| 18 | ÷ | 9 | = | 2 |
| 27 | ÷ | 9 | = | 3 |
| 36 | ÷ | 9 | = | 4 |
| 45 | ÷ | 9 | = | 5 |
| 54 | ÷ | 9 | = | 6 |
| 63 | ÷ | 9 | = | 7 |
| 72 | ÷ | 9 | = | 8 |
| 81 | ÷ | 9 | = | 9 |
| 90 | ÷ | 9 | = | 10 |

Evaluation Copy
AWS Publications Ltd
All rights reserved