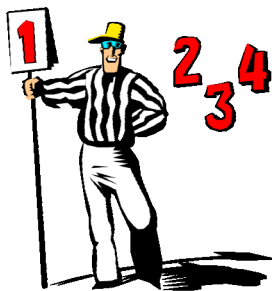


Mathematics

Level 4

Photocopy Masters

Homework / Assessment Worksheets



- Number •
- Measurement •
- Geometry •
- Algebra •
- Statistics •



A set of activity sheets written utilising
MATHEMATICS in the New Zealand CURRICULUM
(Including answers)



Author: A. W. Stark

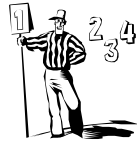


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Author: A. W. Stark



L4M

Author:

A. W. Stark

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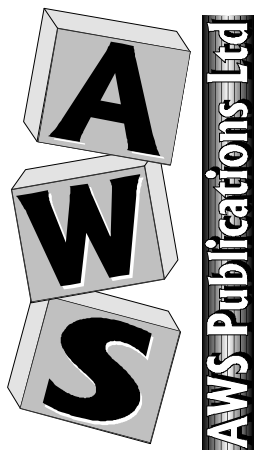
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This resource unit may be used as a master, and therefore can be photocopied, only by the school or institution that has purchased this resource unit.



Note from the author:

This resource ...

(L4MR) Mathematics

Level 4

Homework / Assessment Worksheets

has been written utilising the objectives as stated in
Mathematics in the New Zealand Curriculum for Level 4.

The resource **L4MR** has been compiled to complement the **series of FIVE resources** for Level 4 Mathematics, written utilising the objectives of the five strands for the Mathematics curriculum, (see opposite page for details). L4MR can be used on its own or in conjunction with the series of five resources.

These Homework / Assessment Worksheets can be utilised in several ways:

- as a pre-test to assess pupils' prior knowledge of an objective
- as a post-test to assess pupils' understanding of the objective that has been taught
- as homework or revision worksheets
- as remedial or extension worksheets

Utilising the Homework / Assessment Worksheets contained in the FIVE resources, **L4MN, L4MM, L4MG, L4MA & L4MSt** and the worksheets within the resource **L4MR**, will give you ...

TWO sets of parallel Homework / Assessment Worksheets.


Information contained in this resource includes ...

- a table of contents indicating the strand and objective(s) being covered in each worksheet
- a list of the Level 4 Mathematics objectives as stated in the curriculum
- Homework / Assessment Worksheets
- answers
- pupil tracking sheets

For more information about these and other resources, please contact ...



 (03) 338 0516

 (03) 338 0514

Other specialist Mathematics resources available for Level 4.

A Complete Guide to Number

written utilising the objectives as stated in

Mathematics in the New Zealand Curriculum for Level 4.

Resource Code:
L4MN

A Complete Guide to Measurement

written utilising the objectives as stated in

Mathematics in the New Zealand Curriculum for Level 4.

Resource Code:
L4MM

A Complete Guide to Geometry

written utilising the objectives as stated in

Mathematics in the New Zealand Curriculum for Level 4.

Resource Code:
L4MG

A Complete Guide to Algebra

written utilising the objectives as stated in

Mathematics in the New Zealand Curriculum for Level 4.

Resource Code:
L4MA

A Complete Guide to Statistics

written utilising the objectives as stated in

Mathematics in the New Zealand Curriculum for Level 4.

Resource Code:
L4MSt

About these resources:

Each resource is divided into 8 sections.

- Section 1:** List of **Strand Objectives** appropriate to each resource.
Table of '**In-class**' **Worksheets / Objectives** covered, including the **Mathematical Processes** objectives.
- Section 2:** Table of **Contents** for '**In-class**' **Worksheets**.
The '**In-class**' **Worksheets** generally have the following format:
 - **worked example**, introducing an objective / skill.
 - **one or more Tasks**, with graded questions.
- Section 3:** '**In-class**' **Worksheet PHOTOCOPY MASTERS**.
Each resource will have between 15 & 24 **Worksheets**.
- Section 4:** **Teaching Notes / Answers** for '**In-class**' **Worksheets**
- Section 5:** Table of **Contents** for **Homework / Assessment Worksheets**, including objectives covered.
- Section 6:** **Homework / Assessment Worksheet PHOTOCOPY MASTERS**.
 - Each resource will have between 8 & 12 **Worksheets**.
 - All **Homework / Assessment worksheets** will contain '10 **Quick Questions**', written using the Level 3 mathematics objectives, as revision.
- Section 7:** **Answers** for **Homework / Assessment Worksheets**.
- Section 8:** A **Worksheet Tracking Sheet** for teachers to record pupil names & worksheets / objectives completed.

Table of Contents for the Homework / Assessment Worksheet Masters Level 4 Mathematics

Worksheet Number	Topic	Objective(s)
1	Special numbers / Prime numbers / Multiples / Factors / Guess the number game	Revision
2	Positive and negative numbers / Temperature changes / Bank overdrafts / Number lines	N1
3	Squares and square roots / Cubes / Other powers / Guess the number game	N2
4	Diagrams and equivalent fractions / Creating equivalent fractions / Matching equivalent fractions	N3
5	Expressing a fraction as a decimal / Expressing a decimal as a fraction / Expressing a decimal as a percentage / Expressing a percentage as a decimal	N4 / N5
6	Converting between fractions, decimals and percentages / Expressing a quantity as a fraction of a whole / Expressing a quantity as a % of a whole / Word problems	N4 / N5 / N6
7	Rounding and estimation / Word problems / Estimations involving money	N7 / N8
8	Multiplying and dividing by powers of 10 / Multiplying and dividing decimals / Word problems	N8
9	Finding a fraction of a quantity / Finding a percentage of a quantity / Word problems involving fractions and percentages	N9
10	Adding, subtracting and multiplying / Order of operations / Order of operations involving brackets / Missing signs / Word problems	N10 / N11
11	Reading scales / Marking points on a scale / Accuracy of measurement	M1
12	Metric conversions / Word problems	M1
13	Finding the perimeter / Word problems / Finding the circumference	M1 / M2
14	Finding the area / Word problems	M2
15	Finding the volume / Volume calculations / Word problems	M2
16	Reading tables & charts / More tables & charts / Creating a timetable	M3
17	Using scales & scale diagrams / Qualitative data	M3 / M4
18	Analogue and digital time / 24 hr, a.m. & p.m. time / Mixed time units & word problems / Changes over time	M5
19	Geometry key facts / Naming angles / Measuring angles / Drawing angles	G1
20	Angle properties / Using angle properties / Angle problems	G1
21	Constructing triangles / Circle parts	G1

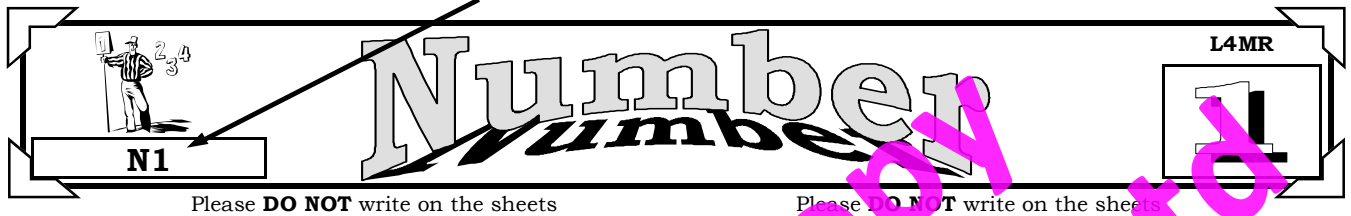
Worksheet Number	Topic	Objective(s)
22	Drawing nets / Net diagrams / Scale diagram of a net	G2
23	Drawing on isometric paper / Constructing 3D block structures / Drawing view diagrams	G3 / G4
24	Location using grid references / Location using co-ordinates / Location using compass points / Bearings from NORTH	G5
25	Reflective and rotational symmetry / Designs involving reflection / Rotating shapes / Tessellations	G6 / G7
26	Finding scale factors of enlargement / Finding a centre of an enlargement / Drawing an enlargement / Describing designs	G8
27	Creating and describing shape patterns / Number sequences	A1
28	Continuing a sequence and finding a rule / Word problems involving sequences	A1
29	Using a rule to create a number sequence / Practical problems involving rules	A2
30	Graphs of real-life situations / Drawing a relationship graph / Understanding mapping diagrams	A3
31	Mapping diagrams & ordered pairs / Real-life graphs / Co-ordinate graphs	A3
32	Using and creating formulae / More formulae	A4
33	'Guess the number' game / Solving equations / Word problems	A5
34	Statistical words / Designing a questionnaire / What would you investigate?	S1
35	Types of data / frequency tables / More frequency tables / Collecting data	S2 / S3
36	Interpreting column & dot plot graphs / Creating a column graph / Creating a dot plot graph	S3
37	Understanding histograms / Creating a histogram	S3
38	Understanding stem & leaf graphs / Creating a stem & leaf graph	S3
39	Understanding pictograms / Understanding pie and strip graphs / Creating a pictogram, a strip graph and a pie graph	S3
40	Creating percentage bar graphs / Pie graph calculations / Creating a pie graph using a protractor	S3
41	Understanding time-series graphs / Creating a time-series graph / Collecting data	S4
42	Mean, median, mode & range / Finding the mean/ Finding the median / Finding the mode / Finding the range / Word problems	S5
43	Interpreting data displays / Creating a statistical report	S6 / S7
44	Relative frequency / probability scales / Experiment & investigation	S8
45	Listing outcomes / Creating a tree diagram/ More outcomes / Creating a grid diagram	S9
46	Using probability to predict outcomes / probability	S9
Answers		

Mathematics

in the New Zealand CURRICULUM

Level 4

At the top of each **Homework / Assessment worksheet** for the 5 strand areas, the objective(s) being covered has been indicated. *EXAMPLE:* For **Number**, **N1** means objective 1, **N2** means objective 2, etc.



Number

Exploring number

[Refer Page 44]

Within a range of meaningful contexts, students should be able to:

- **N1** explain the meaning of negative numbers;
- **N2** explain the meaning and evaluate powers of whole numbers;
- **N3** find a fraction equivalent to one given;
- **N4** express a fraction as a decimal, and vice versa;
- **N5** express a decimal as a percentage, and vice versa;
- **N6** express quantities as fractions or percentages of a whole.

Exploring computation and estimation

Within a range of meaningful contexts, students should be able to:

- **N7** make sensible estimates and check the reasonableness of answers;
- **N8** write and solve problems involving decimal multiplication and division;
- **N9** find a given fraction or percentage of a quantity;
- **N10** explain satisfactory algorithms for addition, subtraction, and multiplication;
- **N11** demonstrate knowledge of the conventions for order of operations.

Measurement

Estimating and measuring

[Refer Page 70]

Within a range of meaningful contexts, students should be able to:

- **M1** carry out measuring tasks involving reading scales to the nearest graduation;
- **M2** calculate perimeters of circles, rectangles, and triangles, areas of rectangles and volumes of cuboids from measurements of length;
- **M3** read and construct a variety of scales, timetables, and charts;
- **M4** design and use a simple scale to measure qualitative data.

Developing concepts of time, rate and change

Within a range of meaningful contexts, students should be able to:

- **M5** perform calculations with time, including 24-hour clock times.

Geometry

Exploring shape and space

[Refer Page 104]

Within a range of meaningful contexts, students should be able to:

- **G1** construct triangles and circles, using appropriate drawing instruments;
- **G2** design the net and make a simple polyhedron to specific dimensions;
- **G3** make a model of a solid object from diagrams which show views from the top, front, side, and back;
- **G4** draw diagrams of solid objects made from cubes;
- **G5** specify location, using bearings or grid references.

Exploring symmetry and transformations

Within a range of meaningful contexts, students should be able to:

- **G6** apply the symmetries of regular polygons;
- **G7** describe the reflection or rotational symmetry of a figure or object;
- **G8** enlarge and reduce a 2-dimensional shape and identify the invariant properties.

Algebra

Exploring patterns and relationships

[Refer Page 142]

Within a range of meaningful contexts, students should be able to:

- **A1** find a rule to describe any member of a number sequence and express it in words;
- **A2** use a rule to make predictions;
- **A3** sketch and interpret graphs on whole number grids which represent simple everyday situations.

Exploring equations and expressions

Within a range of meaningful contexts, students should be able to:

- **A4** find and justify a word formula which represents a given practical situation;
- **A5** solve simple linear equations such as $2x + 4 = 16$.

Statistics

Statistical investigations

[Refer Page 182]

Within a range of meaningful contexts, students should be able to:

- **S1** plan a statistical investigation arising from the consideration of an issue or an experiment of interest;
- **S2** collect appropriate data;
- **S3** choose and construct quality data displays (frequency tables, bar charts and histograms) to communicate significant features in measurement data;
- **S4** collect and display time-series data.

Interpreting statistical reports

Within a range of meaningful contexts, students should be able to:

- **S5** report the distinctive features (outliers, cluster and shape of data distribution) of data displays;
- **S6** evaluate others' interpretations of data displays;
- **S7** make statements about implications and possible actions consistent with the results of a statistical investigation.

Exploring probability

Within a range of meaningful contexts, students should be able to:

- **S8** estimate the relative frequencies of events and mark them on a scale;
- **S9** find all possible outcomes for a sequence of events, using tree diagrams.



Revision

Number

L4MR




Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $19.8 + 25.6 =$
- $930 - 753 =$
- $562 \times 10 =$
- $400 \div 80 =$
- Name this shape 
- $\$5.70 \times 9 =$
- Write 15 minutes to 7 as digital time

	:	
--	---	--

- Find $\frac{1}{2}$ of \$18.30
.....
- How many kilometres in 9300m?
- What would 5 books at \$8.75 each cost?
.....

B: Special numbers

Complete these sentences using the words below.

factor, multiples, prime, prime factor

- A number can only be divided by two numbers, itself and 1.
- The of a number are found by multiplying the number by 1, 2, 3, 4, 5, etc and recording the answers.
- A of a given number is a whole number that divides exactly into the given number. There is no remainder.
- A is a factor that is a prime number.

C: Prime numbers

Circle the prime numbers in this list below.

1, 3, 5, 7, 10, 11, 13, 15, 17, 19, 22, 23, 25, 27, 31, 33, 35, 37, 39, 43, 47, 53, 55, 61

D: Multiples

List the next six multiples for each number.

- 9,
- 7,
- 12,
- 6,
- 14,
- 25,
- 30,

List the multiples of 11 that are ...

- less than 60
- between 70 and 115

E: Factors

List the factors of the numbers listed below.

- 10
- 18
- 21
- 25
- 32

Write each number below as two prime factors.

Example: $2 \times 5 = 10$

- \times = 14
- \times = 22
- \times = 35

F: Guess the number game

I am a prime number.
I am greater than 20,
but less than 35.
My digits add to 11.
What number am I?

1.

I am an even number.
I am greater than 60,
but less than 85.
I am a multiple of 9.
What number am I?

2.

I am an odd number.
I am greater than 10,
but less than 20.
I am a factor of 30.
What number am I?

3.

I am an even number.
I am greater than 50,
but less than 70.
I am a multiple of 15.
What number am I?

4.



Comments:

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Number

L4MR

2

Homework / Assessment Worksheet

N1

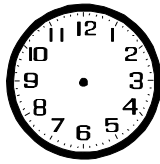
Name: _____

Class: _____

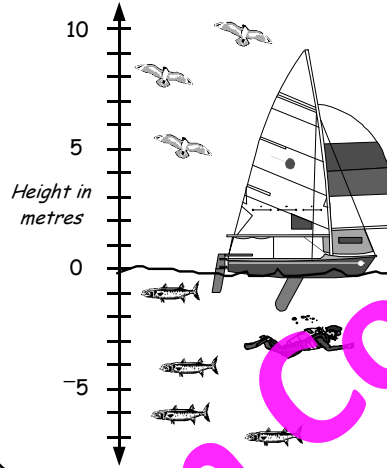
Complete by: _____

A: 10 'Quick Questions'

- $1893 + 844 =$
- $730 - 549 =$
- $594 \times 40 =$
- $850 \div 5 =$
- $\$15.40 + \$16.65 + \$1.20 =$
- $\$8.25 \times 7 =$
- Draw twenty-five to 11 on this clock face
- Find $\frac{1}{4}$ of $\$29.00$
- How many metres in 7.8km?
- What would 7 books at $\$7.35$ each cost?



B: Positive and negative numbers



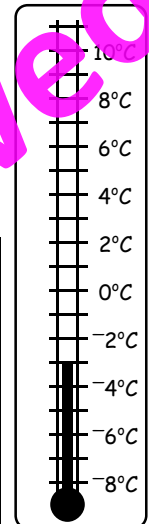
State the position of the following as positive and negative numbers.

- The height of the top of the mast.
- The heights of the three birds.
- The depths of the four fish.
- The depth of the diver.

C: Temperature changes

The temperature scale is one of the most commonly used scales that uses negative numbers.

- What is the temperature shown on this diagram of a thermometer?
- What is the new temperature?



E: Bank overdrafts

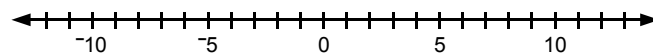
Calculate each new balance of an account after the following transactions. The account has an opening balance of **\\$200**.

- Buys a new bike worth $\$370$.
new balance =
- Sells an old bed for $\$215$
new balance =
- Buys some new clothes worth $\$125$.
final balance =

Starting temperature	Change	New temperature
3°C	drops 8°C	
-4°C	rises 7°C	
-7°C	drops 11°C	
-3°C	drops 7°C	
-7°C	rises 6°C	

D: Number lines

Number lines are used to represent positive and negative numbers and go on forever in both directions.



Add these positive and negative numbers together.

- $-4 + 5 =$
- $9 + -4 =$
- $5 + -9 =$
- $-5 + 10 =$
- $-11 + 7 =$
- $7 + -8 =$
- $9 + -12 =$
- $12 + -11 =$
- $-13 + 7 =$
- $-6 + 9 =$
- $13 + -9 =$
- $-14 + 11 =$
- $-5 + -6 =$
- $-7 + -5 =$

F: Numbers game

Michelle rolls two dice three times, then adds the numbers.

Odd numbers = 1, 3, 5
Even numbers = 2, 4, 6



Calculate the total if these numbers appeared on the dice.

6, 3, 5, 2, 4, 5



Comments:

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Number

L4MR



N2

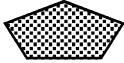
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $23.9 + 21.7 =$
- $736 - 624 =$
- $319 \times 12 =$
- $560 \div 70 =$
- Name this shape 
- $\$6.70 \times 8 =$
- Write 15 minutes past 6 as digital time
 :
- Find 50% of \$8.78

- How many kilograms in 9600g?
- What would 8 books at \$9.35 each cost?

B: Squares and square roots

- The number 6 squared would be written as 6^2 , but what does it mean?

Calculate these squares.

- | | |
|------------------|------------------|
| 2. 3^2 | 3. 8^2 |
| 4. 7^2 | 5. 11^2 |
| 6. 10^2 | 7. 5^2 |
| 8. 12^2 | 9. 6^2 |
| 10. 4^2 | 11. 9^2 |
| 12. 16^2 | 13. 14^2 |
| 14. 20^2 | 15. 30^2 |
| 16. 50^2 | 17. 60^2 |

The opposite of squaring a number is to find the square root. Find the square roots of these numbers.

- | | |
|------------------------|------------------------|
| 18. $\sqrt{49}$ | 19. $\sqrt{25}$ |
| 20. $\sqrt{36}$ | 21. $\sqrt{100}$ |
| 22. $\sqrt{121}$ | 23. $\sqrt{144}$ |
| 24. $\sqrt{225}$ | 25. $\sqrt{400}$ |
| 26. $\sqrt{900}$ | 27. $\sqrt{196}$ |

C: Cubes

- What does 2^3 mean?

Calculate the following cubes.

- 3^3
- 4^3
- 5^3
- 6^3
- 7^3
- 8^3
- 10^3
- 20^3

D: Other powers

If five to the power of six is written as 5^6 , write the following as numbers, without working out the answer ...

- four to the power of three
- six to the power of five
- ten to the power of six



Calculate the following.

- | | |
|----------------|-----------------|
| 4. 2^4 | 5. 3^4 |
| 6. 2^5 | 7. 5^4 |
| 8. 2^8 | 9. 10^4 |

E: Guess the number game

I am a number squared.
 I am greater than 80,
 but less than 110.
 My digits add to 1.
 What number am I?

1.

I am a number squared.
 I am greater than 50,
 but less than 100.
 My digits add to 10.
 What number am I?

2.

I am a number cubed.
 I am greater than 100,
 but less than 150.
 I am a multiple of 5.
 What number am I?

3.

I am a number cubed.
 I am greater than 50,
 but less than 80.
 I am a multiple of 8.
 What number am I?

4.



Comments:

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Number

L4MR

4

Homework / Assessment Worksheet

N3

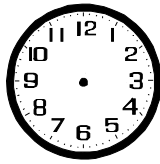
Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $1756 + 694 =$
- $920 - 592 =$
- $739 \times 80 =$
- $710 \div 5 =$
- $\$13.40 + \$17.67 + \$2.05 =$
- $\$8.15 \times 8 =$
- Draw twenty past 7 on this clock face
- Find $\frac{1}{4}$ of $\$33.00$
- How many millimetres in 63cm?
- What would 9 books at $\$8.15$ each cost?



B: Diagrams and equivalent fractions

A fraction of each set of diagrams has been shaded.

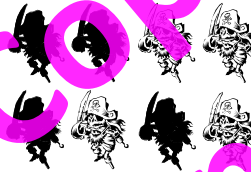
1. What fraction of each group is shaded?



A.

B.

C.



D.

E.

F.

2. From your answers to question 1 above, match the equivalent fractions.

..... = / = / =

D: Matching equivalent fractions

Match the fractions listed with an equivalent fraction in the box below.

- $\frac{1}{2}$
- $\frac{1}{3}$
- $\frac{1}{4}$
- $\frac{1}{5}$
- $\frac{2}{3}$
- $\frac{3}{4}$
- $\frac{2}{5}$
- $\frac{4}{7}$
- $\frac{5}{9}$

$\frac{6}{9}$	$\frac{24}{60}$	$\frac{8}{16}$
$\frac{18}{24}$	$\frac{12}{36}$	$\frac{16}{28}$
$\frac{25}{45}$	$\frac{5}{20}$	$\frac{6}{30}$

C: Creating equivalent fractions

To create equivalent fractions, multiply the top and bottom numbers of the fraction by the same number.

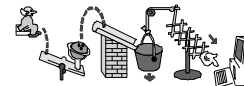
Example: $\frac{3}{4} \times \frac{5}{5} = \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$



Complete each calculation to create equivalent fractions.

- $\frac{1}{4} \times \frac{4}{4} =$
- $\frac{1}{4} \times \frac{7}{7} =$
- $\frac{3}{5} \times \frac{3}{3} =$
- $\frac{3}{7} \times \frac{5}{5} =$
- $\frac{5}{6} \times \frac{4}{4} =$
- $\frac{5}{8} \times \frac{6}{6} =$
- $\frac{2}{9} \times \frac{7}{7} =$
- $\frac{7}{10} \times \frac{3}{3} =$
- $\frac{7}{9} \times \frac{6}{6} =$
- $\frac{5}{12} \times \frac{5}{5} =$

Complete each equivalent fraction as you replace the \blacklozenge with a number.



- $\frac{1}{4} = \frac{\blacklozenge}{12}$ $\blacklozenge =$
- $\frac{2}{3} = \frac{\blacklozenge}{9}$ $\blacklozenge =$
- $\frac{3}{4} = \frac{\blacklozenge}{20}$ $\blacklozenge =$
- $\frac{2}{5} = \frac{\blacklozenge}{30}$ $\blacklozenge =$
- $\frac{5}{7} = \frac{\blacklozenge}{28}$ $\blacklozenge =$
- $\frac{3}{10} = \frac{\blacklozenge}{100}$ $\blacklozenge =$
- $\frac{48}{60} = \frac{\blacklozenge}{30}$ $\blacklozenge =$
- $\frac{16}{48} = \frac{\blacklozenge}{6}$ $\blacklozenge =$

Write 5 equivalent fractions of your own equal to ...

19. $\frac{2}{5} =$ _____ = _____ = _____ = _____ = _____



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Number

L4MR



N4 / N5


Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $17.9 + 43.8 =$
- $1350 - 873 =$
- $809 \times 11 =$
- $720 \div 90 =$
- Name this shape 
- $\$6.70 \times 9 =$
- Write 20 minutes to 8 as digital time

	:	
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- Find $\frac{1}{2}$ of $\$9.30$
- How many milligrams in 5.45g?
- What would 7 books at $\$5.75$ each cost?

B: Expressing a fraction as a decimal

Fractions can be converted into a decimal by dividing the **numerator** by the **denominator**.

Example: Write $\frac{3}{4}$ as a decimal.

Answer: $4 \overline{)3.00}$

$$\begin{array}{r} 0.75 \\ 4 \overline{)3.00} \end{array}$$

Convert these fractions to decimals. Show your working.

- $\frac{1}{2} =$ _____
- $\frac{1}{4} =$ _____
- $\frac{1}{5} =$ _____
- $\frac{3}{4} =$ _____
- $\frac{5}{8} =$ _____
- $\frac{7}{10} =$ _____
- $\frac{1}{8} =$ _____
- $\frac{5}{6} =$ _____
- $\frac{9}{10} =$ _____
- $\frac{1}{3} =$ _____

C: Expressing a decimal as a fraction

Decimals can be expressed as fractions with denominators of 10, 100, 1000, 10000, etc.

Convert these decimals to fractions.

- | | | |
|----------------|-----------------|-----------------|
| 1. 0.7 | 2. 0.07 | 3. 0.007 |
| 4. 0.19 | 5. 0.4 | 6. 0.702 |
| 7. 0.315 | 8. 0.0135 | 9. 0.85 |
| 10. 0.3 | 11. 0.725 | 12. 0.004 |
| 13. 0.64 | 14. 0.04 | 15. 0.574 |

D: Expressing a decimal as a percentage

Decimal $\times 100 =$ percentage.

Convert these decimals to percentages.



- | | |
|----------------|----------------|
| 1. 0.9 | 2. 0.54 |
| 3. 0.15 | 4. 0.04 |
| 5. 0.63 | 6. 0.85 |
| 7. 0.7 | 8. 0.51 |
| 9. 0.42 | 10. 0.07 |
| 11. 0.82 | 12. 1.15 |
| 13. 3.56 | 14. 4.84 |

E: Expressing a percentage as a decimal

Percentage $\div 100 =$ decimal.

Convert these percentages to decimals.



- | | |
|----------------|----------------|
| 1. 35% | 2. 9% |
| 3. 73% | 4. 16% |
| 5. 8% | 6. 31% |
| 7. 51% | 8. 19% |
| 9. 27% | 10. 8.1% |
| 11. 4% | 12. 240% |
| 13. 170% | 14. 435% |



Comments:

Please sign:
Parent / Caregiver

AWS



Number

L4MR



N4 / N5 / N6

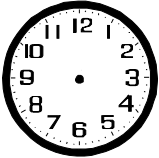
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $3685 + 862 =$
- $786 - 599 =$
- $563 \times 40 =$
- $815 \div 5 =$
- $\$19.60 + \$2.10 + \$13.95 =$
- $\$6.45 \times 6 =$
- Draw twenty to 3 on this clock face 
- Find 25% of \$42.00
- How many kilolitres in 9650L?
- What would 11 books at \$4.65 each cost?

B: Converting between fractions, decimals and percentages

Complete this table using the information in the box.

Fraction	Decimal	Percentage
		25%
	0.3	
$\frac{2}{5}$		50%
	0.6	
$\frac{3}{4}$		

0.4	0.5	$\frac{2}{3}$
33.3%	$\frac{1}{3}$	0.75
0.25	40%	75%
$\frac{1}{4}$	66.6%	$\frac{1}{2}$

C: Expressing a quantity as a fraction of a whole


1. Express the shaded diagrams as a fraction of each group.

A  B  C  A =
 B =
 C =


Read each statement and write the information as a fraction.

- Joanne scored 23 out of 30 in a maths test.
- Of 60 pets, 36 were cats.
- It was sunny 5 days last week.
- Sally slept for 9 hours yesterday.
- What fraction of your class are girls?

E: Word problems

Jimmy has a 200ml container of juice. 

- If he has 50ml left, what percentage of the juice has he drunk?

Jill is going to run 10 times around a local park. 

- What fraction of her run does she have left to do, if she has only run 2 laps?

A petrol tank holds 50L, but only has 15L left in it.




- What percentage of a full tank of petrol has been used so far?

In Kaye's class of 30 pupils, 21 pupils went to the movies.

- What fraction of Kaye's class did not go?

D: Expressing a quantity as a % of a whole

1. Express the shaded diagrams as a percentage of each group.

A  B  C  A =
 B =
 C =

Read each statement and write the information as a percentage.

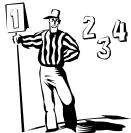
- Joanne scored 38 out of 50 in a maths test.
- Of 20 pets, 14 were cats.
- It was sunny for 10 days out of 20.
- Sally lost 6 of her 10 new pens.
- 7 out of 25 pupils have a cold.



Comments:

Please sign:
Parent / Caregiver

AWS



Number

L4MR



N7 / N8


Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $56.9 + 371 =$
- $830 - 528 =$
- $878 \times 9 =$
- $810 \div 90 =$
- Name this shape 
- $\$3.45 \times 8 =$
- Write 15 minutes past 9 as digital time

	:	
--	---	--
- Find 50% of \$7.50
.....
- How many centimetres in 6.78m?
- What would 9 books at \$10.25 each cost?
.....

B: Rounding and estimation

When an accurate answer is not required or when doing a quick calculation, rounding a number can be a useful skill to use.

Round these numbers to the nearest 10.

- 23
- 104
- 78

Round these numbers to the nearest 100.

- 120
- 187
- 631

Round these numbers to the nearest 1000.

- 1186
- 4869
- 5241

Round these numbers to the nearest 10, 100 or 1000, before working out an estimated answer.

- $383 + 867 =$ + =
- $1574 - 1024 =$ - =
- $5097 \times 22 =$ \times =
- $2982 \div 49 =$ \div =
- $6212 + 8983 =$ + =
- $909 \times 96 =$ \times =
- $2805 - 1465 =$ - =

C: Word problems

A bus driver records the distances he travelled each day for a week as shown below.

87km, 39km, 64km, 92km
151km, 76km, 51km

Work out an estimated total distance he travelled by rounding to the nearest 10km, then the actual distance.

Estimated distance



Actual distance

+

--



+

--

D: Estimations involving money

Work out an estimated cost using rounding, then the actual cost of the following shopping lists.



mushrooms
\$7.90 / kg



beans
\$2.90 / kg



carrots
\$1.90 / kg



broccoli
\$5.90 / kg

List A

- 3kgs of carrots
- 2kgs of beans
- ½kg of broccoli
- 1kg of mushrooms

Estimated total

Actual total

- | | | |
|-----------|---------|--------------------|
| 3 × | = | 3 × \$1.90 = |
| 2 × | = | 2 × \$2.90 = |
| ½ × | = | ½ × \$5.90 = |
| 1 × | = | 1 × \$7.90 = |

\$

\$

Estimated total

Actual total

- | | | |
|-----------|---------|--------------------|
| 3 × | = | 3 × \$1.90 = |
| 4 × | = | 4 × \$2.90 = |
| 2 × | = | 2 × \$5.90 = |
| 2 × | = | 2 × \$7.90 = |

\$

\$

Comments:

Please sign:
Parent / Caregiver



AWS



Number

L4MR



N8

Homework / Assessment Worksheet

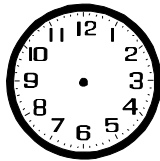
Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $1709 + 644 =$
- $870 - 549 =$
- $852 \times 30 =$
- $730 \div 5 =$
- $\$4.10 + \$29.65 + \$9.45 =$
- $\$2.75 \times 11 =$
- Draw twenty past 9 on this clock face
- Find 25% of \$70.00
- How many litres in 9.15kL?
- What would 10 books at \$3.30 each cost?



B: Multiplying and dividing by powers of 10

Calculate the following.

- $4.3 \times 100 =$
- $8.7 \div 100 =$
- $9.9 \times 10000 =$
- $36.4 \times 10000 =$
- $632 \div 100 =$
- $0.63 \div 10 =$
- $48.3 \times 1000 =$
- $6321 \div 100 =$
- $7.3 \div 1000 =$
- $0.47 \times 1000 =$
- If Jan buys 1000 envelopes at 15 cents each, how much will it cost? Give your answer in dollars.
- If Jan paid \$40.00 for a box of 100 stamps, how much does one stamp cost?
- If a brick fence is to be built using 100000 bricks, how much will the bricks cost if each brick costs 60 cents?



C: Multiplying and dividing decimals

Calculate the following, showing your working

- $0.07 \times 9 =$
- $21 \div 3 =$
- $0.48 \div 4 =$
- $0.06 \times 0.03 =$
- $0.035 \times 0.5 =$
- $6.39 \div 0.09 =$
- $0.56 \div 0.8 =$
- $63.6 \times 0.03 =$
- $2.79 \times 0.02 =$
- $0.63 \div 0.7 =$
- $\begin{array}{r} 173.9 \\ \times 90 \\ \hline \end{array}$
- $\begin{array}{r} 7.46 \\ \times 0.7 \\ \hline \end{array}$
- $\begin{array}{r} 56.76 \\ \times 0.08 \\ \hline \end{array}$
- $\begin{array}{r} 31.5 \\ \times 1.2 \\ \hline \end{array}$
- $0.5 \overline{)34.5}$
- $0.02 \overline{)2.624}$
- $0.3 \overline{)0.363}$
- $0.004 \overline{)8.244}$
- $\begin{array}{r} 2.86 \\ \times 4.7 \\ \hline \end{array}$
- $\begin{array}{r} 51.96 \\ \times 0.38 \\ \hline \end{array}$
- $\begin{array}{r} 0.346 \\ \times 69 \\ \hline \end{array}$
- $\begin{array}{r} 57.5 \\ \times 0.064 \\ \hline \end{array}$

D: Word problems

A 64.5km motor cycle race is raced around 5 laps of a street course.

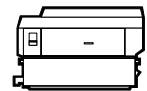
- How far is each lap?



The second race of the day is a 10 lap race on the same course.

- Use your answer in Q1 above to calculate the distance of the second race.

Photocopying costs 6 cents per copy.



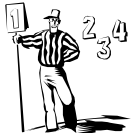
- Convert 6 cents to dollars
- Calculate the cost, of photocopying ...
 - 100 copies
 - 1000 copies
 - 650 copies
 - 925 copies



Comments:

Please sign:
Parent / Caregiver

AWS



Number

L4MR



N9


Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $94 + 18.6 =$
- $670 - 437 =$
- $680 \times 12 =$
- $420 \div 60 =$
- Name this shape 
- $\$11.50 \times 8 =$
- Write 5 minutes to 12 as digital time

:

- Find $\frac{1}{2}$ of $\$16.70$
- How many metres in 7345mm?
- What would 6 books at $\$12.45$ each cost?

B: Finding a fraction of a quantity

Example: Find $\frac{3}{4}$ of 60.

$$60 \div 4 = 15, 15 \times 3 = 45. \quad \text{Answer: } 45$$

Calculate the following fractions of these whole numbers.

- | | |
|-------------------------------|--------------------------------|
| 1. $\frac{1}{4}$ of 16 | 2. $\frac{1}{3}$ of 36 |
| 3. $\frac{1}{10}$ of 90 | 4. $\frac{1}{8}$ of 64 |
| 5. $\frac{5}{7}$ of 35 | 6. $\frac{2}{9}$ of 45 |
| 7. $\frac{5}{6}$ of 36 | 8. $\frac{3}{10}$ of 80 |
| 9. $\frac{5}{7}$ of 56 | 10. $\frac{2}{11}$ of 77 |

C: Finding a percentage of a quantity

Example: Find 40% of 60

$$40\% = 0.4, 0.4 \times 60 = 24$$

$$\text{or } 40\% = \frac{2}{5}, 60 \div 5 = 12, 12 \times 2 = 24 \quad \text{Answer: } 24$$

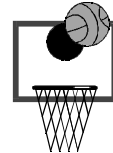
Calculate the following fractions of these whole numbers.

- | | |
|---------------------|---------------------|
| 1. 40% of 50 | 2. 10% of 85 |
| 3. 40% of 60 | 4. 60% of 70 |
| 5. 80% of 110 | 6. 30% of 48 |
| 7. 25% of 36 | 8. 25% of 84 |
| 9. 75% of 80 | 10. 90% of 54 |

D: Word problems involving fractions and percentages

A school basketball team has won 80% of the 20 games it has played this season.

- Calculate how many games they won?
- What percentage of the games did they not win?



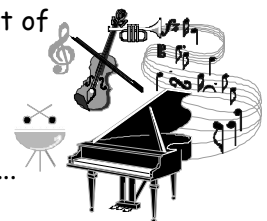
In Room 8 there are 25 pupils, $\frac{1}{5}$ of the pupils are aged 11, $\frac{3}{5}$ of the pupils are 12 and the rest of the pupils are aged 13.



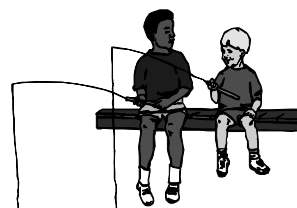
- Calculate how many pupils are 12 years old.
- Calculate how many pupils are 11 years old.
- What fraction of Room 8 pupils are aged 13?
- Calculate how many pupils are 13 years old.

In a South Island town, 1400 people went to a concert in a park. 20% were from out of town, 70% were local people and the rest were from the North Island.

- Calculate the number of local people at the concert.
- Calculate the number of out of town people who went.
- What percentage of the people were from the North Island?
- Calculate the number of North Islanders at the concert.



During one day in the holidays, James spent $\frac{1}{8}$ of the time playing computer games, $\frac{1}{2}$ of the time fishing and the rest of the time sleeping.



- Calculate how many hours James was fishing.
- Calculate how many hours he played on the computer.
- Calculate how many hours James was asleep.
- What fraction of the day did James sleep?



Comments:

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AWS



Number

L4MR



N10 / N11

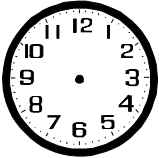
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $1423 + 714 =$
- $680 - 549 =$
- $639 \times 60 =$
- $690 \div 5 =$
- $\$17.40 + \$27.15 + \$1.10 =$
.....
- $\$6.25 \times 8 =$
- Draw
twenty-five
to 3
on this
clock face

- Find $\frac{1}{4}$ of $\$73.00$
.....
- How many kilometres in
5250m?
- What would 8 books at
 $\$8.70$ each cost?
.....

B: Adding, subtracting and multiplying

Show clearly your working, when calculating these questions.

- $$\begin{array}{r} 436 \\ 74 \\ \hline 3982 \\ + 7 \\ \hline \end{array}$$
- $$\begin{array}{r} 805 \\ 1139 \\ 9 \\ + 863 \\ \hline \end{array}$$
- $$\begin{array}{r} 7857 \\ - 3667 \\ \hline \end{array}$$
- $$\begin{array}{r} 10000 \\ - 6376 \\ \hline \end{array}$$
- $$\begin{array}{r} 4365 \\ \times 78 \\ \hline \end{array}$$
- $$\begin{array}{r} 14306 \\ \times 45 \\ \hline \end{array}$$
- $$\begin{array}{r} 23105 \\ \times 352 \\ \hline \end{array}$$

C: Order of operations

Calculate the following, remembering to use the **BODMAS** or **BEDMAS** order of operation rules, and show your working.

- $6 \times 9 + 10 = 54 + 10$
=
- $21 + 30 \div 5 =$
- $45 \div 5 \times 6 =$
- $25 - 4 \times 6 =$
- $32 - 5 \times 5 =$
- $7 \times 8 + 12 =$
- $56 \div 7 + 14 =$
- $12 \times 9 - 63 =$
- $8 \times 9 - 37 =$
- $72 \div 6 - 9 =$
- $17 + 48 \div 3 =$
- $28 + 45 \div 9 =$
- $63 \div 7 - 5 =$
- $5 \times 8 + 16 =$

D: Order of operations involving brackets

Remember that $5(3 + 6)$ means $5 \times (3 + 6)$

Calculate the following and show your working.


- $2(4 \times 5 + 1)$
=
- $5(24 \div 2 - 7)$
=
- $13 + 2(14 - 7)$
=
- $41 - 3(4 + 3)$
=
- $9 + 3(11 - 18 \div 2)$
=
- $3(6 \times 3 - 15) + 20$
=

E: Missing signs

Make each statement true by placing +, -, \times or \div signs in the boxes between the numbers.

- $4 \square 3 \square 8 = 4$
- $20 \square 4 \square 7 = 12$
- $7 \square 21 \square 3 = 14$
- $20 \square 2 \square 6 = 8$
- $4 \square 9 \square 6 = 6$

F: Word problems

Mary buys 3 rolls of film at $\$5.50$ each and 4 batteries at $\$1.20$ each. 

- How much did she spend?
.....

David buys 20 pencils at 40 cents each, a diary for $\$5.25$ and 3 exercise books for 80 cents each.

- How much did he spend?
.....



Comments:

Please sign:
Parent / Caregiver

AWS



Measurement

L4MR



M1

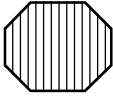
Homework / Assessment Worksheet

Name: _____

Class: _____

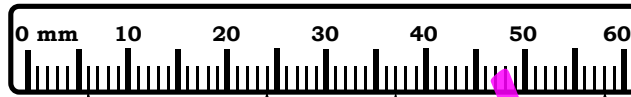
Complete by: _____

A: 10 'Quick Questions'

- $24 \div 6 \times 3 - 10 = \dots\dots\dots$
- Convert 3735mL to L
.....
- Change 21:45 in 24hr time to a.m or p.m. time
.....
- Calculate $\sqrt{225} = \dots\dots\dots$
- Name this shape 
.....
- Find 10% of \$54.70
.....
- Estimate $252.4 \div 24.4$ by rounding first
..... \div =
- List the first 5 multiples of 14
- $6.85 \times 0.8 = \dots\dots\dots$
- Solve the equation
 $9y + 11 = 47$
 $y = \dots\dots\dots$

B: Reading scales

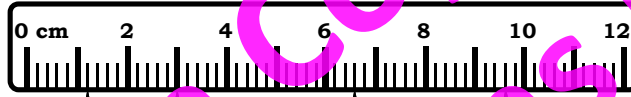
For each diagram ... state the unit of measurement, state what each division on the scale represents, state the measurements indicated by the pointers.



Pointers

- A =
B =
C =
D =

1. unit = 1 division =



Pointers

- A =
B =
C =
D =

2. unit = 1 division =



Pointers

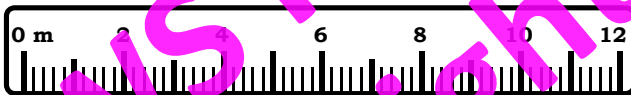
- A =
B =
C =
D =

3. unit = 1 division =

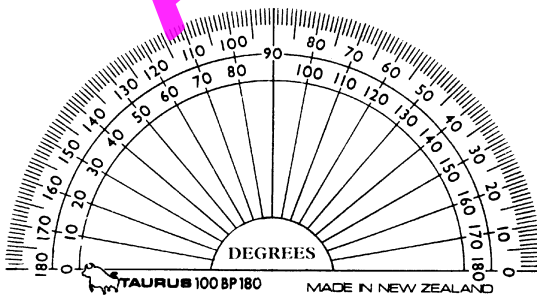
C: Marking points on a scale

Mark the following points on these scales.

1. A = 2.8m, B = 5.2m, C = 7.6m, D = 11.6m



2. A = 50°, B = 15°, C = 145°, D = 110°

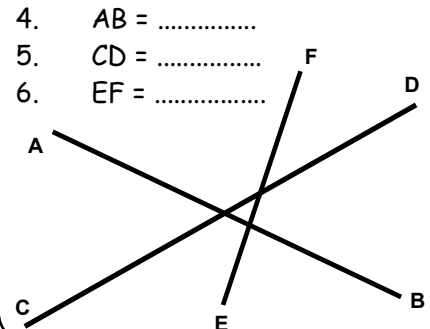


D: Accuracy of measurement

State the minimum and maximum measurements.

- 28cm \pm 2cm
.....
- 376mm \pm 13mm
.....
- 1.375g \pm 0.025g
.....

Measure the length of these lines, to the nearest mm.



- AB =
- CD =
- EF =



Comments:

Please sign:
Parent / Caregiver

AWS



Measurement

L4MR



M1

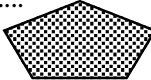
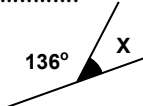
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $38 - 7 \times 3 + 11 = \dots\dots\dots$
- Convert 9124mg to g
.....
- Convert 5:27 p.m. to 24hr time
.....
- What would 9 books at \$5.65 each cost?
.....
- Name this shape 
.....
- Find 20% of \$24.70
.....
- Calculate $\angle X$ 
X =
- List the factors of 16
.....
- $8.42 \times 0.5 = \dots\dots\dots$
- Solve the equation
 $6y - 15 = 33$
y =

B: Metric conversions

Fill in the missing number or unit for these conversions.

- 4cm = mm
- 23mm = 2.3
- 3560mg = 3.56
- 5.8kg = g
- 9.3L = mL
- 6325m = 6.325
- 435cm = 4.35
- 869mL = L
- 6.5t = kg
- 5.2m = 5200
- 4785L = 4.785
- 5635m = 5.635

C: Adding and subtracting mixed units

Answer in the unit indicated in the brackets. Both measurement units must be the same unit before adding or subtracting.

- $1.5m + 484cm = \blacklozenge$ (cm)
- $4200mL - 3.7L = \blacklozenge$ (L)
- $3.8kg - 2450g = \blacklozenge$ (g)
- $78mm + 4.6cm = \blacklozenge$ (mm)
- $6300L + 5.1kL = \blacklozenge$ (kL)
- $6375mg + 4.15g = \blacklozenge$ (g)
- $7.5m - 584cm = \blacklozenge$ (cm)
- $3.4km + 5740m = \blacklozenge$ (km)

D: Word problems

David is building a shelving unit that has 9 wooden shelves all 125cm long.

- Calculate the total length of wood required. Give your answer in metres.
.....



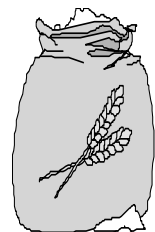
Jodie has a collection of several different shaped bottles.

- If the capacity of five bottles was 8000mL, 2.5L, 3.5L, 660mL and 3000mL, calculate the total volume of these bottles. Give your answer in litres.
.....



A bakery buys flour in 60kg sacks.

- Calculate the weight of flour a bakery goes through if it buys 40 sacks of flour in six months. Answer in tonnes.
- If a 60kg sack costs \$40.00, how much has the bakery spent on flour?
- If a small bread bun uses 400g of flour, how many small buns can be made from a 60kg sack of flour?



Jim runs laps around a local park each morning. The distance of each lap is 1500m.

- How many metres would Jim run, if he ran 3 laps? Give your answer in kilometres.
.....
- How many laps will he need to run to complete a distance of 6km?



Comments:

Please sign:
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AWS



Measurement

L4MR

13

M1 / M2

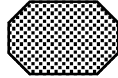
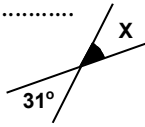
Homework / Assessment Worksheet

Name: _____

Class: _____

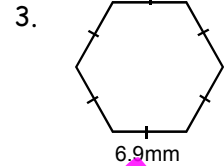
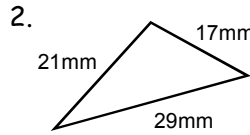
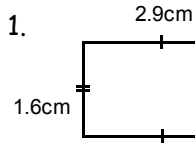
Complete by: _____

A: 10 'Quick Questions'

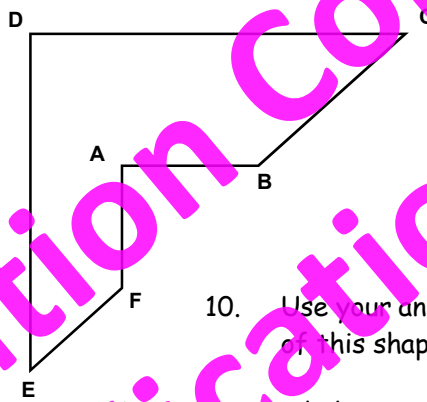
- $32 - 5 \times 4 + 9 =$
- Convert 5.325kL to L
.....
- Convert 11:23 a.m. to 24hr time
- What would 11 books at \$5.45 each cost?
.....
- Name this shape 
- Find $\frac{1}{4}$ of \$24.76
.....
- Calculate $\angle X$ 
X =
- List the factors of 18
.....
- $7.46 \times 0.5 =$
- Solve the equation
 $5(y - 4) = 25$
y =

B: Finding the perimeter

Calculate the perimeter of these shapes.



Measure the sides of this shape below, to the nearest millimetre.



- AB = mm
- BC = mm
- CD = mm
- DE = mm
- EF = mm
- FA = mm

- Use your answers to calculate the perimeter of this shape.
- A rectangle has a perimeter of 48 cm. If one side is 11cm long, how long is the other side?

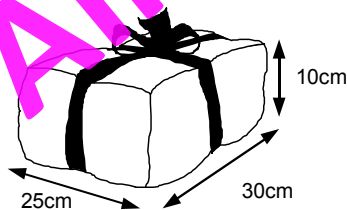
C: Word problems

A local park has sides of 550m, 520m, 480m and 650m.



- Calculate the perimeter of the park. Answer in metres
- Convert your answer above to km
- How far is 5 laps around this park?
- If Tim ran 15.4km altogether, how many laps did he run?

Miri is going to tie a ribbon around this parcel. The dimensions of the parcel are shown in the diagram.



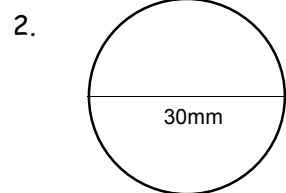
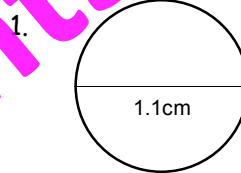
- Calculate the length of ribbon that is needed to go around the parcel, then add 60cm to allow for a bow to be tied.
.....

D: Finding the circumference

The circumference of a circle

can be worked out using the rule ...

$$C = 3.1 \times d$$



C = C =

The diameter of a tin lid is 12cm.

- Calculate the circumference of the tin lid.



The diameter of a plate is 35cm.

- Calculate the circumference of the plate.

The diameter of a saucer is 150mm.

- Calculate the circumference of the saucer.



Comments:

Please sign:
Parent / Caregiver



AWS



Measurement

L4MR



M2

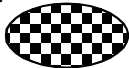
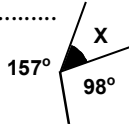
Homework / Assessment Worksheet

Name: _____

Class: _____

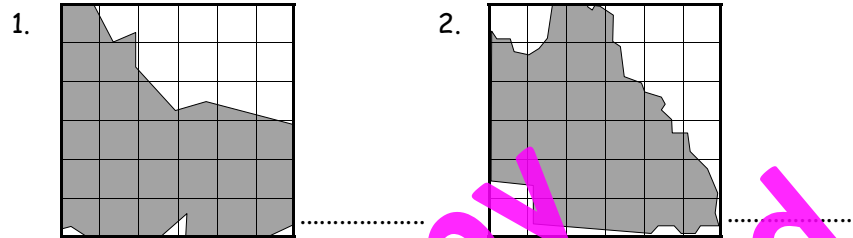
Complete by: _____

A: 10 'Quick Questions'

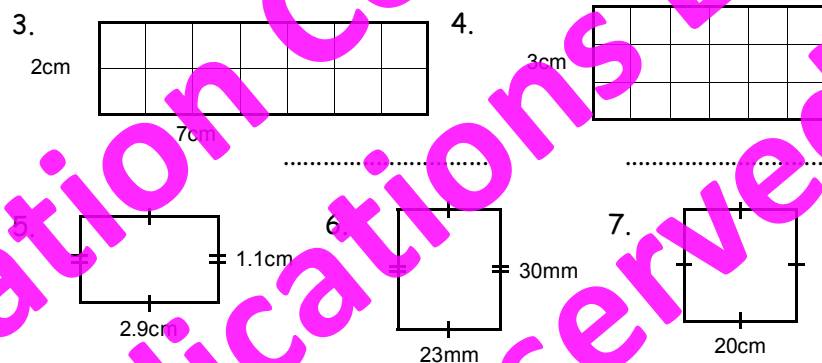
- $40 - 36 \div 4 + 5 = \dots\dots\dots$
- Convert 4365kg to tonnes
.....
- Convert 2115 to a.m. / p.m.
time
- What would 8 books at
\$14.15 each cost?
.....
- Name this shape 
.....
- Find $\frac{3}{4}$ of \$36.80
.....
- Calculate $\angle X$ 
X =
- List the first 5 multiples
of 16
- $16.64 \div 0.2 = \dots\dots\dots$
- Solve the equation
 $6(y + 3) = 72$
y =

B: Finding the area

Estimate the area of the shaded shapes.



Calculate the area of these shapes below. Remember to include the name of the unit in your answers



C: Word problems

A rugby field measures 105m long and 55m wide.

- Calculate the total playing area.



A fence that is 70m long and 1.8m high is to be spray painted with two coats of paint.

- Calculate the total area that is to be painted.
Give your answer in m^2
- If 1 litre of paint covers $12m^2$ of the fence, how many litres of paint
will be needed?



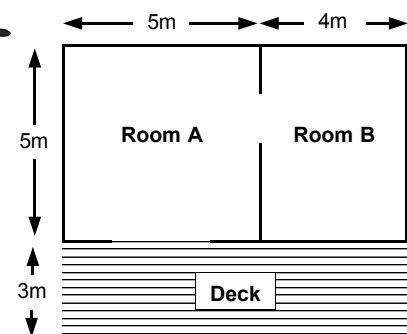
This diagram is of a small holiday house, which has two rooms and a deck.



- Calculate the area of Room A.
- Calculate the area of Room B.

Both rooms are to have new carpet laid at a cost of \$65 / m^2 .

- Calculate the cost of the carpet.
- Calculate the area of the deck.



The deck is made up of 15 lengths of wood, each 9 metres long.

- If each strip of wood costs \$2.15 / metre, what is the total
cost of the wood in the deck?



Comments:

Please sign:
Parent / Caregiver

AWS



Measurement

L4MR

15

M2

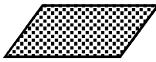
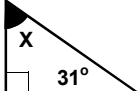
Homework / Assessment Worksheet

Name:

Class:

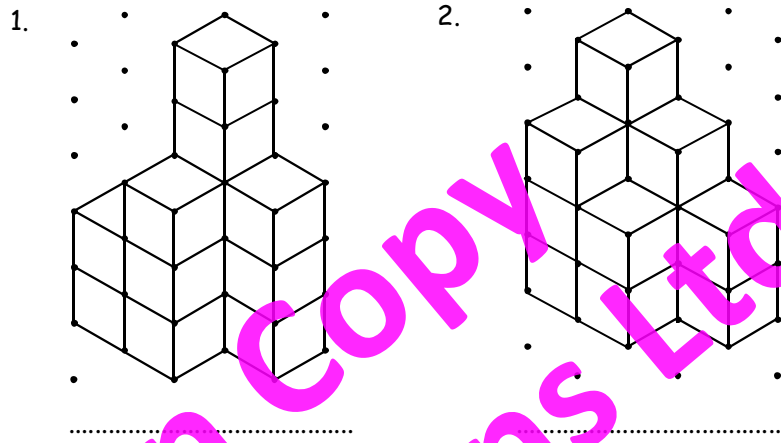
Complete by:

A: 10 'Quick Questions'

- $50 - 9 \times 4 + 11 = \dots\dots\dots$
- Convert 5.285L to mL
.....
- Convert 6:35 p.m. to 24hr time
.....
- What would 11 books at \$8.25 each cost?
.....
- Name this shape 
.....
- Find 50% of \$47.50
.....
- Calculate $\angle X$ 
X =
- List the factors of 24
.....
- $26.68 \times 0.5 = \dots\dots\dots$
- Solve the equation
 $7(y + 5) = 56$
y =

B: Finding the volume

Count the cubes to work out the volume of each pile.

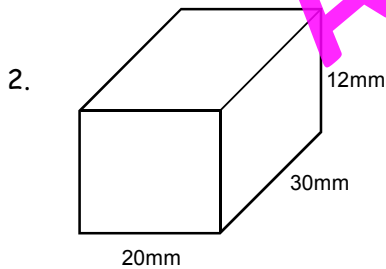
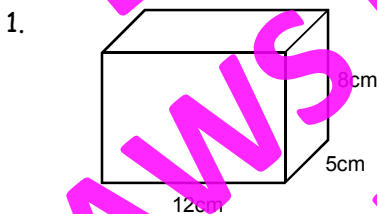


Calculate the volume of these objects, given the area of the cross section.

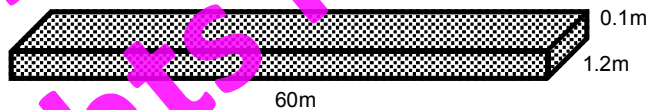


C: Volume calculations

Calculate the volume of these objects.



D: Word problems



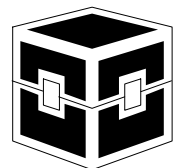
Mr Brown is making a new concrete path that is 60 metres long, 1.2 metres wide and 0.1 metres deep.

- Calculate the volume of concrete he will need for this path.



A cereal box is 40cm high, 30cm wide and 8cm deep.

- Calculate the volume of the cereal box.
.....
- How much cereal would be in this box when it is only a quarter full?
- Calculate the volume of a cube that has sides of 9cm.
- Calculate the volume of a cube that has sides of 30 mm.
- If a cube has a volume of 1000cm^3 , how long are the sides?



Comments:

Please sign:
Parent / Caregiver



AWS



Measurement

L4MR

16

M3

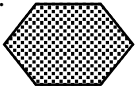
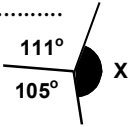
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $42 - 6 \times 5 + 9 = \dots\dots\dots$
- Convert 63.2cm to mm
.....
- Convert 0049 to a.m. / p.m. time
- What would 11 books at \$10.95 each cost?
.....
- Name this shape 
- Find 75% of \$84.00
.....
- Calculate $\angle X$ 
 $X = \dots\dots\dots$
- List the first 5 multiples of 30
- $16.86 \div 0.2 = \dots\dots\dots$
- Solve the equation
 $1.2y = 72$
 $y = \dots\dots\dots$


B: Reading tables & charts

This table shows the results for four teams in a netball competition.

Points are scored as follows ...

Win = 4 pts, Draw = 2 pts, Loss = 1 pt


Team	Won	Drawn	Lost
A	7	0	4
B	5	2	4
C	5	1	5
D	4	3	4

- Calculate the points scored by Team B. 
- Which team scored 32 points?
- Calculate the points scored by Team C.
- Rank the teams in order
1st =, 2nd =, 3rd =, 4th =

Christchurch to Wellington			
Day	Depart	Arrive	Flight
Wed	0725	0805	CW01
Wed	0830	0910	CW02
Wed	1555	1635	CW07
Wed	1740	1820	CW09

This table shows the flight times for planes flying between two cities.

5. Name the two cities.

- What time does the earliest flight depart?
- What time does flight CW07 arrive in Wellington?
- How long is flight CW02?
- If a flight departed at 11:40 a.m., at what time would it arrive in Wellington? 

C: More tables & charts

Jacqui prepared a chart to show the distances, measured in kilometres, between her house (A) and the houses of her friends. The letters B to E represent her friends' houses

- If Jacqui walks to house E, how far has she walked?
- Which two houses are 3.3km apart?
- How far is it from house B to house C?
- How far is it from house E to house C?

	E	D	C	B	A
A	4.3	1.5	2.3	2.2	
B	1.9	0.8	3.1		
C	2.9	3.3			
D	0.9				
E					

Measured in km



- Which two houses are the shortest distance apart?
- Which two houses are the greatest distance apart?
- Calculate the distance from houses A to D, then D to C, then C to E, then E to B and then back to house A.
.....

D: Creating a timetable

Create a daily timetable for yourself in the space below.

Time	Activity



Comments:

Please sign:
Parent / Caregiver

AWS



Measurement

L4MR



M3 / M4


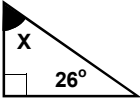
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

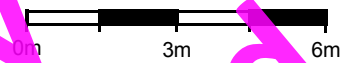
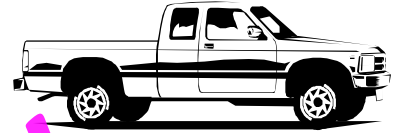
A: 10 'Quick Questions'

- $12 + 7 \times 4 - 17 = \dots\dots\dots$
- Convert 6315m to km
.....
- Convert 11:25 a.m. to 24hr time
.....
- What would 15 books at \$3.55 each cost?
.....
- Name this shape 
.....
- Find $\frac{1}{2}$ of \$52.50
.....
- Calculate $\angle X$ 
X =
- List the factors of 22
.....
- $19.02 \times 0.5 = \dots\dots\dots$
- Solve the equation
 $0.9y = 54$
y =

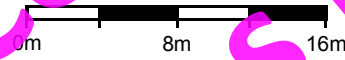
B: Using scales / scale diagrams

For each scale diagram, use the scale that has been given to calculate the actual length.

- Measured length of the truckmm
- Actual length =



- Measured height of the treemm
- Actual height =



These dots represent towns. Use the scale to work out the actual distances between ...

- Towns A & B =
- Towns A & C =
- Towns C & D =
- Draw a dot on the map for a town that is 7.5km from Town B.

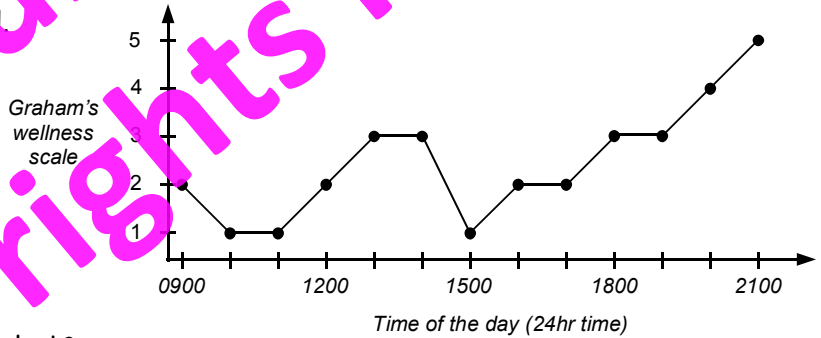


C: Qualitative data

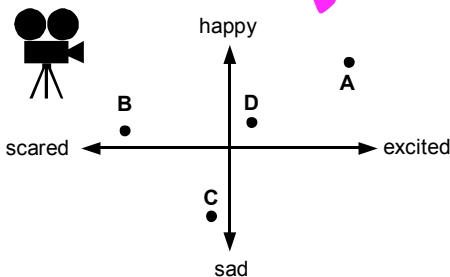
Graham has not been feeling very well. He recorded how he was feeling using the scale below.



- 5 = Great
- 4 = Very well
- 3 = Quite well
- 2 = Ok
- 1 = Terrible



- How was Graham feeling at 11 o'clock?
- How many times during the day was he feeling 'Quite well'?
- At what times during the day was he feeling 'Ok'?



The points A, B, C and D represent how Jodie was feeling during a movie. Describe how she was feeling at ...

- Point A:
- Point B:
- Point C:
- Point D:



Comments:

Please sign:
Parent / Caregiver

AWS



Measurement

L4MR

18

M5

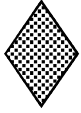
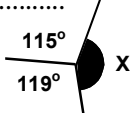
Homework / Assessment Worksheet

Name: _____

Class: _____

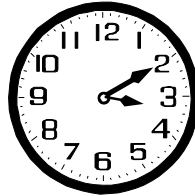
Complete by: _____

A: 10 'Quick Questions'

- $63 - 7 \times 6 + 12 = \dots\dots\dots$
- Convert 92.9cm to m
.....
- Convert 1536 to a.m. / p.m. time
- What would 12 books at \$12.45 each cost?
.....
- Name this shape  shape
.....
- Find 60% of \$47.50
.....
- Calculate $\angle X$ 
X =
- List the first 5 multiples of 18
- $26.36 \div 0.2 = \dots\dots\dots$
- Solve the equation $0.8y = 72$
y =

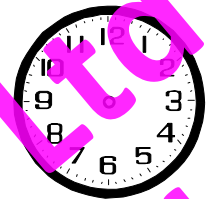
B: Analogue and digital time

Convert these analogue times to digital time.



- This clock shows
- 15 past 7
- $\frac{1}{4}$ to 10
- 20 past 5
- 10 to 12

6. Draw **03:45** on this clock face.



How would you say these digital times?

- 06:50**
- 07:15**
- 11:35**

C: 24 hour, a.m. & p.m. time

Convert these times to 24hr time or a.m. / p.m. time as indicated.

- 7:20 a.m. =
- 1207 =
- 1645 =
- 2:48 a.m. =
- 4:20 p.m. =
- 2145 =
- 0343 =
- 4:08 p.m. =
- 10:50 a.m. =
- 0052 =

D: Mixed time units & word problems


Add and subtract these mixed time units. Give your answer in the time unit given.

- $40\text{sec} + 4\text{min} = \dots\dots\dots \text{sec}$
- $4\text{min} - 120\text{sec} = \dots\dots\dots \text{min}$
- $2\frac{1}{2}\text{hrs} + 270\text{min} = \dots\dots\dots \text{hrs}$
- $72\text{hrs} - 2\frac{1}{2}\text{days} = \dots\dots\dots \text{days}$
- $3\text{wks} + 14\text{days} = \dots\dots\dots \text{wks}$


On Monday Geoff started a game of golf at 10:25 a.m. and played for 4 hrs 15 min.

- At what time did Geoff finish playing golf? Give your answer in 24 hour time.
.....

A weekly television programme starts at 1:35 p.m. and finishes at 2:15 p.m.

- How long is this programme?
- How many episodes of this programme could be taped on a 3 hour video tape? 

E: Changes over time


A train travelling between two cities 270km apart takes 3 hours to make the journey. 

- What is the average speed of the train?
..... km / hour
- If the train travels at 100 km/hr, how far would it go in $4\frac{1}{2}$ hours?

A 10cm high plant, grows at a rate of 3cm / day.

- How high would the plant be in 3 days time?
- How high would the plant be in 2 weeks time?
- For how many days must the plant be growing, to add 18cm to its height?

Jill works in a shop and is paid \$9.50 / hr.

- How much would she earn in 8 hours?
- If she was paid \$57.00, for how many hours did she work? 



Comments:

Please sign:
Parent / Caregiver

AWS



Geometry

L4MR

19

G1

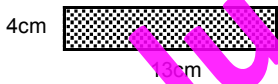
Homework / Assessment Worksheet

Name: _____

Class: _____



Complete by: _____

A: 10 'Quick Questions'

- $19 + 2 \times 5 - 11 = \dots\dots\dots$
- Convert 83cm to mm
.....
- Change 23:37 in 24hr time to a.m or p.m. time
.....
- Calculate 2^3
- Find the mean of the numbers 9, 16, 13, 4, 8
mean =
- Find $\frac{1}{2}$ of \$37.50
.....
- Estimate 9.86×47.89 by rounding first
..... \times =
- Measure this line to the nearest cm
- $1.85 \times 0.8 = \dots\dots\dots$
- 
 perimeter =cm

B: Geometry key facts

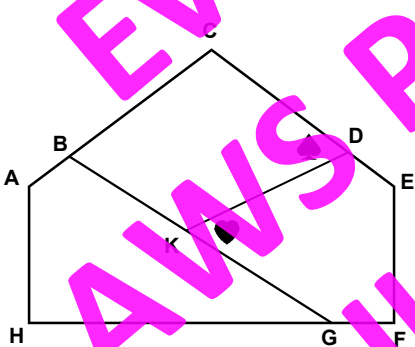
Complete each statement below using one of the words listed below.

- This arrow is pointing in a direction. 
- This arrow is pointing in an direction. 
- An is a measure of turn.
- Angle size is measured in
- A is used to measure angle size.
- A is used to draw circles.
- A is used to draw and measure straight lines.
- An angle that is 90° or a $\frac{1}{4}$ turn is called a angle.
- An angle that is 180° or a $\frac{1}{2}$ turn is called a angle.
- An angle is greater than 0° but less than 90° .
- An angle is greater than 90° but less than 180° .
- A angle is greater than 180° but less than 360° .
- Two lines that cross at right angles are
- Two lines that are the same distance apart are

- straight
- ruler
- acute
- parallel
- clockwise
- obtuse
- protractor
- compass
- perpendicular
- right
- degrees
- angle
- reflex
- anti
- clockwise



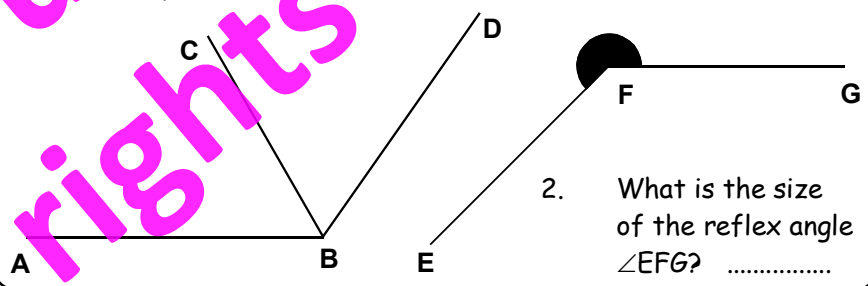
C: Naming angles



- Use three letters to name the angles marked with ♥ & ▲ shapes.
♥ = ▲ =
- Mark $\angle GBA$ with a X.
- Name two acute angles
.....
- Name two obtuse angles
.....

D: Measuring angles

- Use a protractor to measure $\angle ABC = \dots\dots\dots$ & $\angle DBA = \dots\dots\dots$



- What is the size of the reflex angle $\angle EFG$?

E: Drawing angles

Using the line AB as one arm of an angle and B as the vertex, draw the following angles .

- 100°
- 195°
- 30°



Comments:

Please sign: Parent / Caregiver

AWS



Geometry

L4MR

20

G1


Homework / Assessment Worksheet

Name: _____


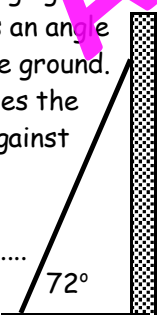
Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $17 + 4 \times 9 - 24 = \dots\dots\dots$
- Convert 214cm to m
.....
- Change 4:35 p.m. to 24 hour time
.....
- Calculate 8^2
- Find the median of the numbers 9, 16, 13, 4, 8
median =
- Find 50% of \$73.50
.....
- Estimate $96.56 \div 10.54$ by rounding first
..... \div =
- Measure this line to the nearest mm
- $2.45 \times 0.8 = \dots\dots\dots$
- 
area = cm^2

D: Angle problems

- A new bicycle wheel has been designed with 9 spokes.
What is the angle between each spoke?

- A ladder leaning against a building makes an angle of 72° with the ground.
What angle does the ladder make against the building?


B: Angle properties

Match the diagrams (A to D) with the angle rules (1 to 4).

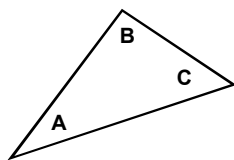


Diagram A

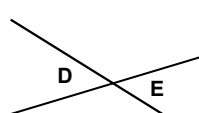


Diagram B

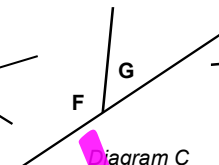


Diagram C

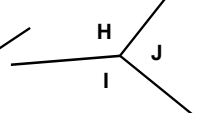


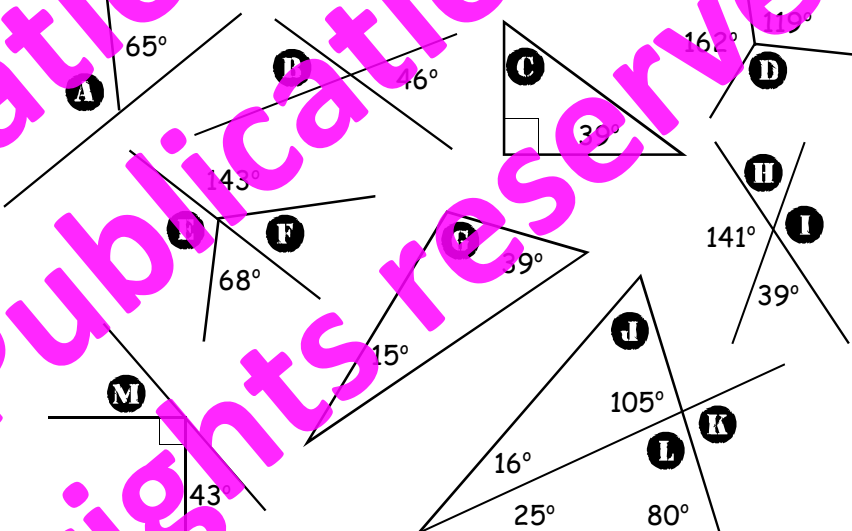
Diagram D

Diagram:

- Adjacent angles on a straight line add to 180° .
- Angles around a point add to 360° .
- Vertically opposite angles are equal.
- Angles in a triangle add to 180° .

C: Using angle properties

Calculate the missing angles and state which rule you used.
Diagrams are not drawn to scale.



- A =
 B =
 C =
 D =
 E =
 F =
 G =
 H =
 I =
 J =
 K =
 L =
 M =



Comments:

Please sign:
Parent / Caregiver

AWS

**G1**

Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

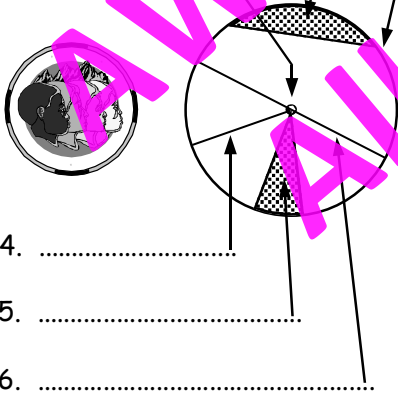
A: 10 'Quick Questions'

- $16 \div 8 \times 4 - 7 = \dots\dots\dots$
- Convert 3225mm to m
.....
- Change 09:45 in 24hr time to a.m or p.m. time
.....
- Calculate $\sqrt{64} = \dots\dots\dots$
- Find the mode of the numbers 9, 8, 10, 13, 8
mode =
- Find 20% of \$540.00
.....
- Estimate $795.9 \div 41.98$ by rounding first
..... \div =
- List the first 5 multiples of 13
- $6.95 \times 0.8 = \dots\dots\dots$
- Solve the equation
 $4y + 17 = 41$
 $y = \dots\dots\dots$

C: Circle parts

Name the parts of the circle, using the list of words below

-
-
-
-
-
-

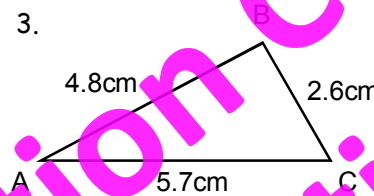


segment, centre, radius, sector, diameter, circumference

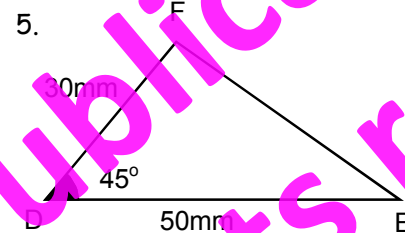
B: Constructing triangles

- Side AC of a triangle ABC has been drawn.
Complete the construction if side AB = 30mm and side CB = 40mm.

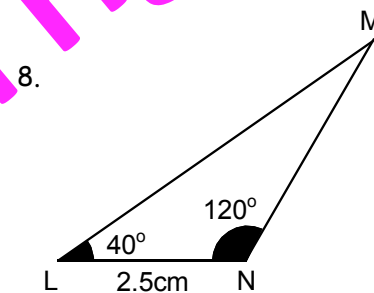
- Measure** line AC and $\angle ABC$.
AC = $\angle ABC = \dots\dots\dots$

Construct these triangles. Show your construction marks.
Diagrams below are not drawn to scale.

- Measure** $\angle A$



- Measure** $\angle E$
- Measure** the length of line EF mm



- Calculate** $\angle M$
- Measure** the length of line LM cm



Comments:

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Parent / Caregiver



Name: _____


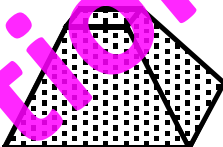
Class: _____

Complete by: _____

A: 10 'Quick Questions'

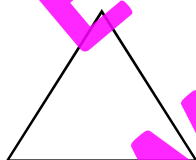
- $12 \times 3 \div 9 - 3 = \dots\dots\dots$
- Convert 3.625km to m
.....
- Change 7:45 a.m. to 24 hour time
.....
- $16.8 \div 0.4 = \dots\dots\dots$
- Find the range of the numbers 22, 4, 12, 2, 16
range =
- Find $\frac{3}{4}$ of \$36.80
.....
- If the area of a square is 64cm^2 , how long is each side?
.....
- List the factors of 27
.....
- $7.38 \times 0.9 = \dots\dots\dots$
- Solve the equation
 $5y - 25 = 65$
 $y = \dots\dots\dots$

B: Drawing nets

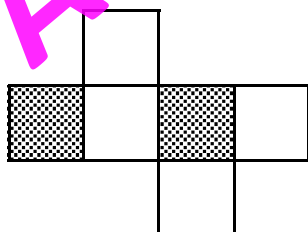
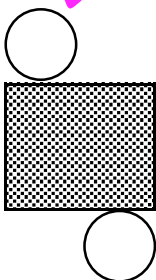
- Draw two different nets for a die (dice) and remember to draw in the dots. 
- Draw a net for this object below. 

C: Net diagrams

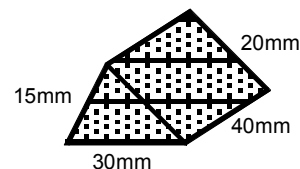
Name the 3D objects created from these nets



-
-



-
-

D: Scale diagram of a netComplete this scale diagram of a net for this object.
Label your diagram.

Comments:

Please sign:
Parent / Caregiver



Geometry

L4MR

23

G3 / G4

Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

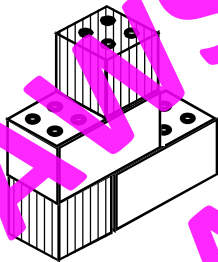
A: 10 'Quick Questions'

- $45 - 5 \times 7 + 9 = \dots\dots\dots$
- Convert 4725g to kg
.....
- Add $2.4\text{m} + 124\text{cm}$
(answer in cm)
- $0.57 \times 0.2 = \dots\dots\dots$
- Write 25 to 9 in digital time
- Find 20% of \$520.00
.....
- List the scores in this stem & leaf graph.
| 36 | 4, 1, 9, 6

- Find the next 3 numbers in this sequence
4, 10, 16,
- $28.5 \times 0.4 = \dots\dots\dots$
- Solve the equation
 $3(y + 5) = 24$
y =

D: Drawing view diagrams

Study this diagram of a block structure made from 2 4-pin and 2 8-pin blocks.



Draw the view diagram for the block structure.

B: Drawing on isometric paper

Copy each block diagram in the space provided.

1. 2.

C: Constructing 3D block structures

Study the view diagrams and build each block structure.



	Top	Front	Left side	Right side	Back
1.					
2.					

Draw each block structure above on isometric paper.

1. _____ 2. _____

Top	Front	Left side	Right side	Back

Comments: _____ Please sign: _____
 _____ Parent / Caregiver



G5

Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $32 \div 4 + 7 \times 6 =$
- Convert 4200mL to L
.....
- Write 15 to 10 in digital time
- $35.5 \div 0.5 =$
- Find the mean of the numbers 19, 4, 11, 8, 15
mean =
- Find 30% of \$60.00
.....
- If the perimeter of a square is 32cm, how long is each side?
- Find the next 3 numbers in this sequence
2, 8, 14,
- Add $1.8\text{m} + 75\text{cm}$
(answer in m)
- Solve the equation
 $6(y - 3) = 42$
 $y =$

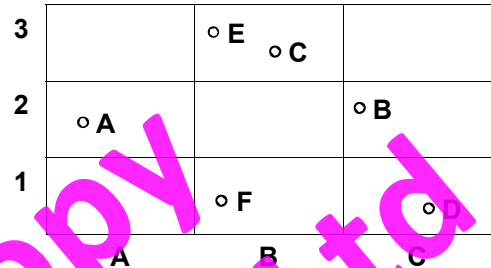
B: Location using grid references

The dots on this grid represent towns.

- Which town has a grid reference of B1?

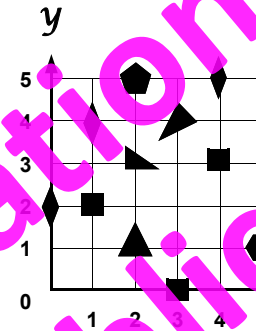
Describe the location of these towns.

- A
- B
- C
- D
- E



C: Location using co-ordinates

On this graph there are mathematical shapes.



- What shapes are at the points (5,1) and (2,5) ?
- List the co-ordinates to locate all the triangles.
- List the co-ordinates to locate all the squares.
- List the co-ordinates to locate all the diamonds.

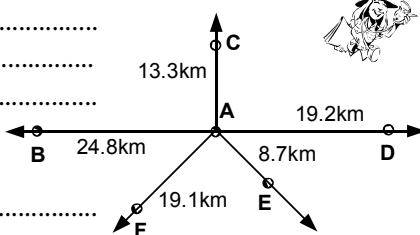
D: Location using compass points

Fill in the missing compass points.

-
-
 -
 -
 -
 -
 -

On this diagram each letter represents a town. State the **distances** and give the **directions** from Town A to the other towns, as follows ...

- A to B
- A to D
- A to F



- A to C
- A to E

E: Bearings from NORTH

Bearings are measured from NORTH.

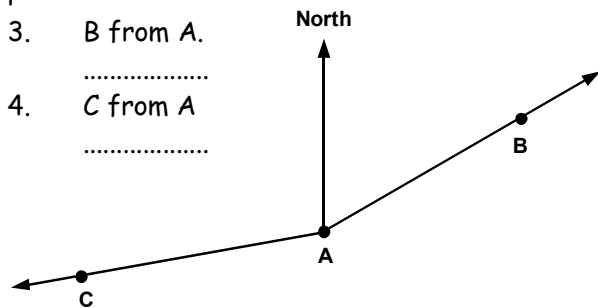
Example: East has a bearing of 90° .

Calculate the bearings for these compass directions.

- SE =
- NW =

Use a **protractor** to find the bearings of these points.

- B from A.
.....
- C from A
.....



- If D is 2cm from A at a bearing of 145° , add point D to this diagram.



Comments:

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Name: _____

Class: _____

Complete by: _____

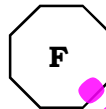
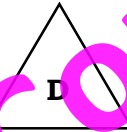
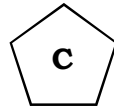
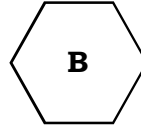
A: 10 'Quick Questions'

- $37 - 4 \times 7 + 8 = \dots\dots\dots$
- Convert 4.850L to mL
.....
- Add 3850g + 2.7kg
(answer in g)
- $0.74 \times 0.6 = \dots\dots\dots$
- Write $\frac{1}{4}$ to 10 in digital
time
- Find 10% of \$34.70
.....
- List the scores in this
stem & leaf graph.
| 50 | 2, 7, 6, 2, 9

.....
- Find the next 3 numbers
in this sequence
6, 11, 16,
- $23.4 \times 0.9 = \dots\dots\dots$
- Solve the equation
 $3(y - 6) = 21$
y =

B: Reflective and rotational symmetry

- Look at each 2D shape drawn below. **Name** each shape and **draw** in the lines of symmetry (if any) on each shape.



- State the **order of reflective** and **order of rotational symmetry** for each shape.
Complete the table below.

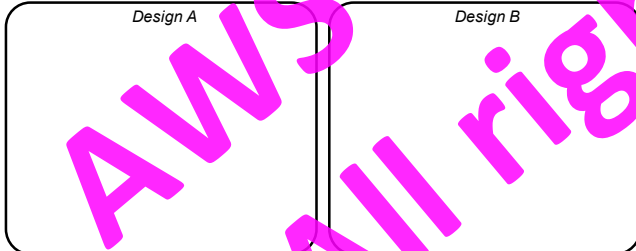
Shape	Reflective symmetry	Rotational symmetry
A		
B		
C		
D		
E		
F		
G		
H		

C: Designs involving reflection

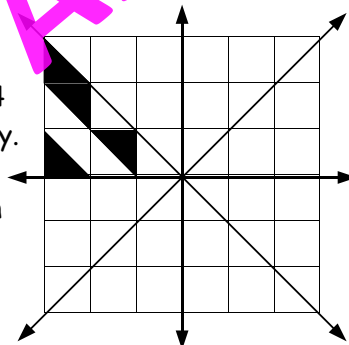
- By folding paper and cutting with scissors, make two designs to fit in the gaps below. Make **Design A** with 1 line of symmetry and **Design B** with 2 lines of symmetry.

Design A

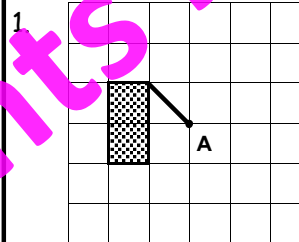
Design B



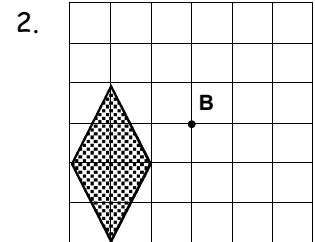
- This design has 4 lines of symmetry. **Reflect** the triangles pattern to complete the design.

**D: Rotating shapes**

Rotate each shape as directed.



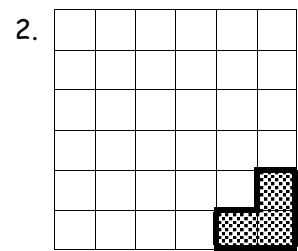
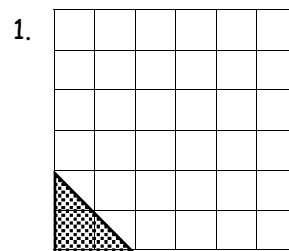
Rotate this shape
90° anti-clockwise,
about point A.



Rotate this shape
180° clockwise,
about point B

E: Tessellations

Tessellate the shape in each box.


 Comments:

 Please sign:
 Parent / Caregiver



Geometry

L4MR

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G8

Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $56 \div 8 + 5 \times 6 = \dots\dots\dots$
- Convert 9600mg to g
.....
- Write $\frac{1}{4}$ past 9 in digital time:.....
- $65.5 \div 0.5 = \dots\dots\dots$
- Find the median of the numbers 19, 4, 19, 13, 10
median =
- Find $\frac{3}{4}$ of \$72.00
.....
- If the area of a square is 81cm^2 , how long is each side?
- Find the next 3 numbers in this sequence
41, 34, 27,
- Add $7.3\text{km} + 1625\text{m}$
(answer in km)
- Solve the equation
 $3(y + 7) = 48$
 $y = \dots\dots\dots$

B: Finding scale factors of enlargement

For an enlargement to occur, there must be a **scale factor**.
Work out the scale factors for these enlargements.
 The **object** is the shaded shape, the **clear** shape is the image.

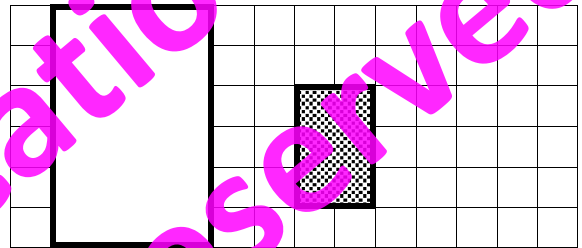
1. scale factor =

2. scale factor =

C: Finding a centre of an enlargement

1. **Join** corresponding corners of the object (shaded) and its image (clear) to **locate** the **centre** of this enlargement.

2. **State** the scale factor of this enlargement
.....



D: Drawing an enlargement

Using X as the centre of enlargement, **enlarge** each shape by the scale factor given. Remember to **label** the image and **draw** some lines on your completed enlargement diagram to show that the position of your diagram is correct.

1. scale factor = 2



2. scale factor = $\frac{1}{2}$

E: Describing designs

Describe what has happened to each series of diagrams. Use the words reflected, rotated, translated or enlarged.



1.



2.



3.



4.



Comments:

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Parent / Caregiver

AWS



Algebra

L4MR

27

A1

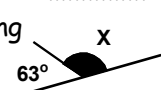
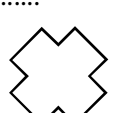

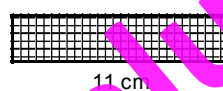
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $7 \times 4 + 11 = \dots\dots\dots$
- Calculate $\sqrt{121} = \dots\dots\dots$
- Circle the factors of 9
1 2 3 4 5 6 7 8 9
- Convert 25% to a fraction $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$

- Find 50% of \$28.60
 $\dots\dots\dots$
- Draw in the lines of symmetry (if any)

- Shade in 25% of these circles

- $4.8 \times 1000 = \dots\dots\dots$
- Calculate the perimeter
4 cm  11 cm
 $\dots\dots\dots$













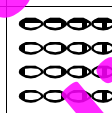
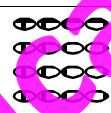
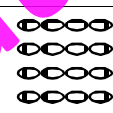
C: Number sequences

Fill in the missing numbers in these number sequences and describe how the sequence was created.

- 1, 3, $\dots\dots\dots$, 7, $\dots\dots\dots$, 11
 $\dots\dots\dots$
- 4, 8, $\dots\dots\dots$, 16, $\dots\dots\dots$, 24
 $\dots\dots\dots$
- 7, 14, $\dots\dots\dots$, 28, $\dots\dots\dots$, 42
 $\dots\dots\dots$
- 4, 9, $\dots\dots\dots$, 19, $\dots\dots\dots$, 29
 $\dots\dots\dots$
- 1, 8, $\dots\dots\dots$, 22, $\dots\dots\dots$, 36
 $\dots\dots\dots$
- 3, 12, $\dots\dots\dots$, 30, $\dots\dots\dots$, 48
 $\dots\dots\dots$
- 120, 60, $\dots\dots\dots$, 15, $\dots\dots\dots$
 $\dots\dots\dots$

B: Creating and describing shape patterns

1. Study each group of shapes below, then draw the 4th and 5th shapes to continue each pattern or sequence.

	1st shape	2nd shape	3rd shape	4th shape	5th shape
A					
B					
C					
D					
E					

2. Count the number of shapes in each sequence of diagrams. Write them in the space below, to create a number sequence and find the next 2 numbers or terms.

- Sequence A: $\dots\dots\dots$
 Sequence B: $\dots\dots\dots$
 Sequence C: $\dots\dots\dots$
 Sequence D: $\dots\dots\dots$
 Sequence E: $\dots\dots\dots$

3. Describe how each number sequence was created.

- A: $\dots\dots\dots$
 B: $\dots\dots\dots$
 C: $\dots\dots\dots$
 D: $\dots\dots\dots$
 E: $\dots\dots\dots$

- Find the 10th and 15th terms of Sequence A. $\dots\dots\dots$ & $\dots\dots\dots$
- Find the 8th and 10th terms of Sequence B. $\dots\dots\dots$ & $\dots\dots\dots$
- Find the 10th and 15th terms of Sequence C. $\dots\dots\dots$ & $\dots\dots\dots$
- Find the 9th and 12th terms of Sequence D. $\dots\dots\dots$ & $\dots\dots\dots$
- Find the 8th and 9th terms of Sequence E. $\dots\dots\dots$ & $\dots\dots\dots$



Comments: _____

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AWS



Algebra

L4MR

28

A1


Homework / Assessment Worksheet

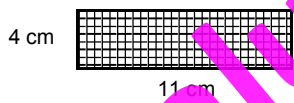
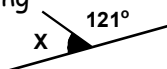
Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $36 \div 3 - 7 = \dots\dots\dots$
- Calculate $\sqrt{81} = \dots\dots\dots$
- Circle the factors of 8
1 2 3 4 5 6 7 8
- Convert 50% to a fraction $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$
- Find $\frac{1}{4}$ of \$29.80
 $\dots\dots\dots$
- Draw in the lines of symmetry (if any)
- Shade in 75% of these circles 
- $6.9 \times 10000 = \dots\dots\dots$
- Calculate the area



B: Continuing a sequence and finding a rule

Find the 4 missing numbers for these sequences.

Describe a word rule for each sequence and find the next three numbers for each sequence.

- 4, 10, 16, $\dots\dots\dots$, $\dots\dots\dots$, 34, 40, $\dots\dots\dots$, 52, $\dots\dots\dots$

Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

- 3, 14, 25, $\dots\dots\dots$, $\dots\dots\dots$, 58, 69, $\dots\dots\dots$, 91, $\dots\dots\dots$

Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

- 4, 8, 16, $\dots\dots\dots$, $\dots\dots\dots$, 128, 256, $\dots\dots\dots$, 1024, $\dots\dots\dots$

Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

- 100, 93, 86, $\dots\dots\dots$, $\dots\dots\dots$, 65, 58, $\dots\dots\dots$, 44, $\dots\dots\dots$

Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

- 6, 15, 24, $\dots\dots\dots$, $\dots\dots\dots$, 51, 60, $\dots\dots\dots$, 78, $\dots\dots\dots$

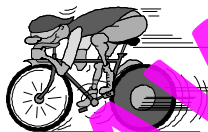
Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

- 117, 109, 101, $\dots\dots\dots$, $\dots\dots\dots$, 77, 69, $\dots\dots\dots$, 53, $\dots\dots\dots$

Rule: $\dots\dots\dots$
 Next three numbers $\dots\dots\dots$

C: Word problems involving sequences

Jim has bought a bicycle worth \$360, but does not have to start paying for it until the end of the first month. Each month he pays off the same amount of money.



\$360, \$315, \$270, $\dots\dots\dots$

- How much does Jim pay off the cost of his bicycle each month? $\dots\dots\dots$
- Complete the number sequence to show how much Jim has left to pay after each monthly payment.
- How many months did it take Jim to pay for his new bicycle? $\dots\dots\dots$

Each week Jenny is saving her pocket money so that she can have some money to spend on holiday. This sequence of numbers shows what Jenny has saved so far.

\$9.50, \$19.00, \$28.50, \$38.00, $\dots\dots\dots$

- How much does Jenny save each week? $\dots\dots\dots$
- Write in the spaces above, the next 6 weekly totals of money that Jenny will save.
- For how many weeks must she save her money if she wants to buy some new clothes worth \$66.50? $\dots\dots\dots$
- If Jenny saved only \$4.75 each week, how long would it take to save \$66.50? $\dots\dots\dots$



Comments: $\dots\dots\dots$

Please sign:
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AWS

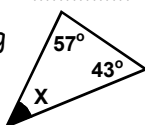




Name: _____


Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $9 + 5 \times 12 = \dots\dots\dots$
- Calculate $\sqrt{64} = \dots\dots\dots$
- List the first 5 multiples of 9
.....
- Convert 0.7 to a fraction
.....
- Find the missing angle X
X =

- Find 20% of \$31.80
.....
- Draw in the lines of symmetry (if any)

- Shade in $\frac{3}{4}$ of these circles 
- $3.4 \times 1000 = \dots\dots\dots$
- If the temperature was 4°C , then drops 8°C , what is the new temperature?
.....

C: Practical problems involving rules

The Lucky Book Club has a sale on some books. These books cost \$5.20 each. 
A postage charge of \$5.00 is added to each order.

Rule

Number of books \times \$5.20, plus \$5.00

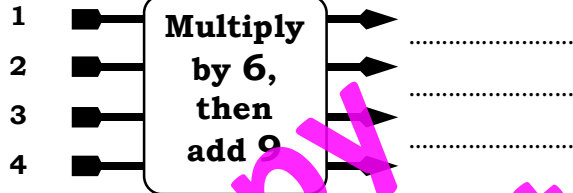
- Use this rule to work out the cost of buying
3 books
4 books
10 books
20 books

B: Using a rule to create a number sequence

Use the rule to find the first 4 terms of this number sequence.

1.

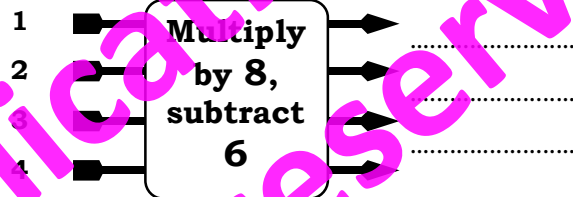
Term numbers	Rule	Sequence numbers
--------------	------	------------------



- Use the same rule, 'multiply by 6, then add 9', to find the ...
8th term,
20th term,
28th term,
and the 43rd term,
of this sequence.

3.

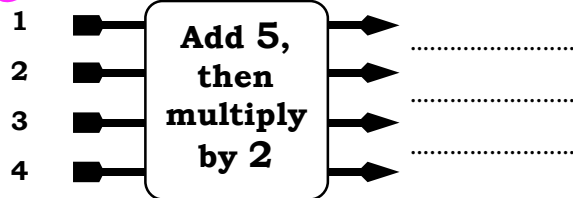
Term numbers	Rule	Sequence numbers
--------------	------	------------------



- Use the same rule, 'multiply by 8, then subtract 6', to find the ...
12th term,
20th term,
33rd term,
and the 60th term,
of this sequence.

5.

Term numbers	Rule	Sequence numbers
--------------	------	------------------



- Use the same rule, 'add 5, then multiply by 2', to find the ...
10th term,
20th term,
32nd term,
and the 50th term,
of this sequence.



Comments:

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Algebra

L4MR



A3

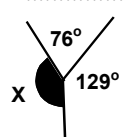
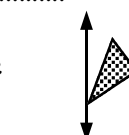
Homework / Assessment Worksheet

Name: _____

Class: _____

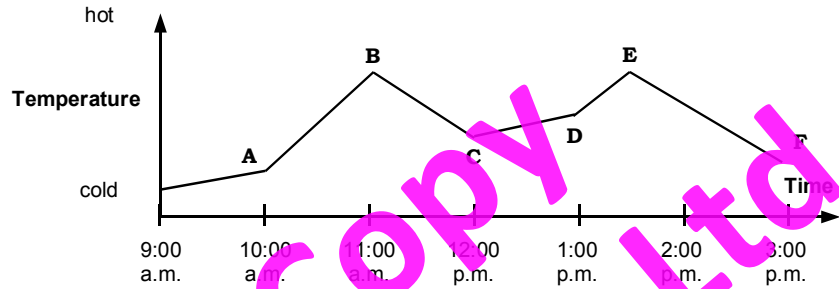
Complete by: _____

A: 10 'Quick Questions'

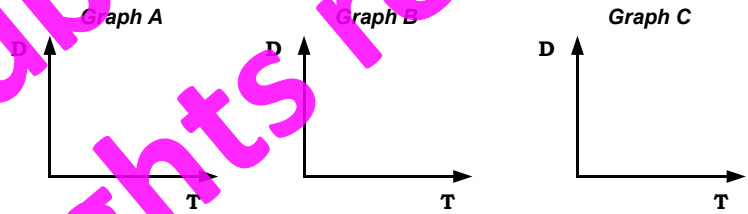
- $19 - 42 \div 7 = \dots\dots\dots$
- Calculate $7^2 = \dots\dots\dots$
- List the first 5 multiples of 10
.....
- Convert 0.25 to a fraction
.....
- Find the missing angle X
X =

- Find 10% of \$31.80
.....
- Complete this diagram to make it symmetrical

- Estimate 102.23×3.89 by rounding first
..... \times =
- $0.8 \times 1000 = \dots\dots\dots$
- If the temperature was 4°C , then drops 7°C , what is the new temperature?
.....

B: Graph of real-life situations

This graph shows the relationship between the temperature in Room 8 and the time of the day, during one day in August.

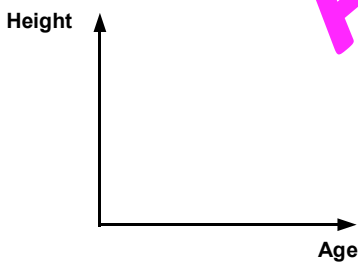


- At what two points on the graph do you think the heaters were turned off? &
Explain why.
 - Explain what temperature change occurred at 10:00 a.m. and what could have caused it.
- Show these three situations on the Distance (D) / Time (T) graphs.
- Linda ran at a constant pace across a park. (Graph A)
 - Ken walks and then runs very fast to school. (Graph B)
 - Andrea walks to a tree, stops for a while, then runs back to where she started from. (Graph C)



C: Drawing a relationship graph

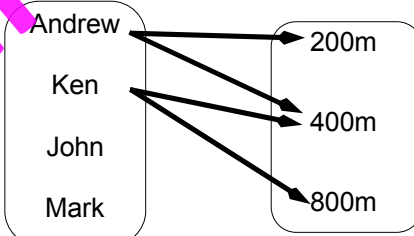
Linda, Helen and Geoff are all members of the same family. Linda is younger than Geoff but older than Helen. Helen is taller than Linda but shorter than Geoff. Draw dots on the graph to show this relationship between their ages and heights.



Remember to label each dot.

D: Understanding mapping diagrams

This mapping diagram shows the events that pupils competed in, on the athletics day.



- Who ran in the 400m race?
.....
- What races did Andrew run in?
.....
- John ran in the 200m and the 800m race.
Draw arrows on the mapping diagram to show this.
- Mark ran in the 200m and the 400m race.
Draw arrows on the mapping diagram to show this.



Comments:

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AWS



Algebra

L4MR

31

A3

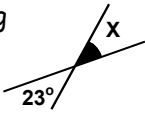

Homework / Assessment Worksheet

Name: _____

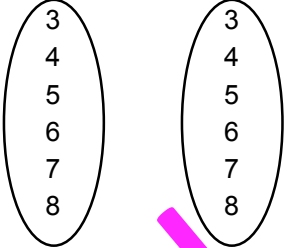
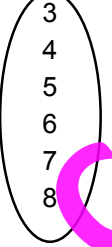
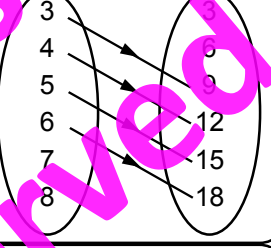
Class: _____

Complete by: _____

A: 10 'Quick Questions'

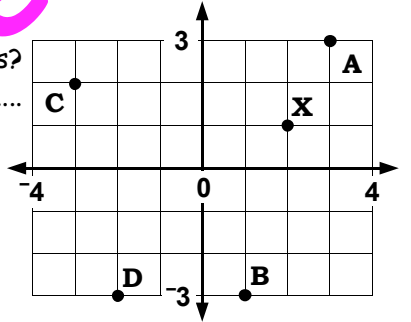
- $9 + 4 \times 7 + 7 = \dots\dots\dots$
- Calculate $13^2 = \dots\dots\dots$
- Circle the factors of 8
1 2 3 4 5 6 8
- Convert $\frac{1}{4}$ to a decimal $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$ 
- Find $\frac{1}{4}$ of \$16.80
 $\dots\dots\dots$
- Estimate $352.86 \div 5.15$ by rounding first
 $\dots\dots\dots \div \dots\dots\dots = \dots\dots\dots$
- Shade in 66.6% of these circles 
- $9.5 \div 100 = \dots\dots\dots$
- If the perimeter of a square is 32cm, how long is each side?
 $\dots\dots\dots$

B: Mapping diagrams / ordered pairs

- On this mapping diagram show the relation 'is 2 more than'.

- List this relation as ordered pairs.
 $\dots\dots\dots$
- On this mapping diagram show the relation 'is 3 less than'.

- List this relation as ordered pairs.
 $\dots\dots\dots$
- What relation is shown on this mapping diagram?

- List this relation as ordered pairs.
 $\dots\dots\dots$

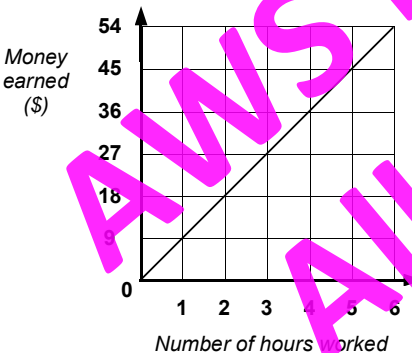
C: Co-ordinate graphs

- Label the x-axis and the y-axis on this graph.
- Point X has the co-ordinates (1, 2), or does it? What is wrong with these co-ordinates?
 $\dots\dots\dots$
- What are the co-ordinates for the points...
A = (,)
B = (,)
C = (,)
D = (,)
- Plot these points on the graph.
E = (-1, 2), F = (0, 1), G = (2, 0), H = (-3, -1)

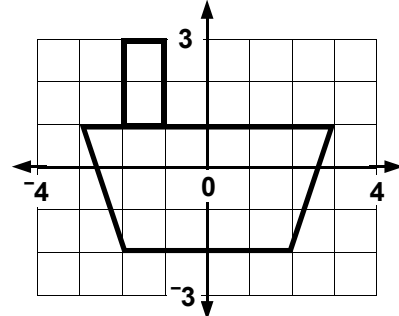


D: Real life graphs

John has a holiday job. This graph shows how much he is paid for the hours he works.



- How much does John earn in 2 hours? $\dots\dots\dots$
- What does the point (4, 36) mean?
 $\dots\dots\dots$



- Write the instructions to draw this shape on the graph.
 $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$



Comments: $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$

Please sign:
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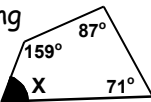



Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $4 + 35 \div 5 - 8$
- Calculate $11^2 =$
- List the first 5 multiples of 13
.....
- Convert 0.33 to a fraction
- Find the missing angle X
X = 
- Find $\frac{3}{4}$ of \$32.80
.....
- Complete this diagram to make it symmetrical 
- Estimate 405.39×1.79 by rounding first
..... \times =
- Convert 4.95kg to grams
.....
- Find the missing numbers in this sequence.
3, 8,, 18,,

C: More formulae

Joanne can buy ...
apples for 35 cents each,
oranges for 80 cents each &
bananas for 50 cents each.


- Write a formula that could be used to work out the total cost of buying any combination of fruit.
.....
.....
.....
- Use your formula to work out the cost of buying 3 apples, 2 oranges and 4 bananas.
.....

B: Using and creating formulae

Use the formulae given to work out these problems.

The cost of buying new soccer balls (S) is given by the formula,

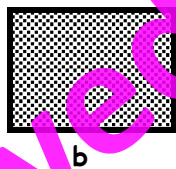
$$S = \$10.50 \times N$$
 where N is the number of soccer balls bought.

- Find the cost of buying ... 

10
15
20 new soccer balls.
- If Mr Moore spent \$84.00 on soccer balls, how many did he buy?
.....


The area (A) of a square or rectangle is given by the formula,

$$A = b \times h$$
 where b = base and h = height

- Find the area of a rectangle that has a height of 9cm and a base of 11cm. 
- Find the area of a square that has sides of 9cm.
- If $A = 36\text{cm}^2$ and $b = 4\text{cm}$, find the height

The cost (C) of buying hamburgers (H) and chips (S) is given by the formula

$$C = \$2.70H + \$1.40S$$


where H = number of hamburgers bought and S = number of scoops of chips bought. 

- What does it cost to buy one hamburger?
- What does it cost to buy 1 scoop of chips?
- Work out the cost of buying ...

1 hamburger and 2 scoops of chips
2 hamburgers and 4 scoops of chips
5 hamburgers and 3 scoops of chips

The 'Read For Life' company sells books that cost \$6.50 each, by mail order. With each order there is a postage charge of \$5.00, no matter how many books are bought.

Let C = total cost of books sold (\$) and N = number of books sold.

- Write a formula to show this information.
.....
- Use your formula to work out the cost of buying ... 

4 books
9 books
13 books by mail order.
- How many books have been purchased, if the cost was \$37.50?



Comments:

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Algebra

L4MR

33

A5




Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $2(6 + 2 \times 4) = \dots\dots\dots$
- Calculate $16^2 = \dots\dots\dots$
- List the factors of 21
.....
- Convert 80% to a decimal
.....
- Find the missing angle X
X =

- Find 60% of \$40.00
.....
- If meat costs \$11.95 / kg, how much would 7kg cost?
.....
- What % of these shapes are shaded?
.....

- $2.7 \times 10000 = \dots\dots\dots$
- How many obtuse angles in this diagram?
.....


B: 'Guess the number' game

Consider these problems.

1. *Think of a number.
Multiply by 6, add 7.
The result is 61.
What is the number?*
.....

2. *Think of a number.
Divide by 8, add 5.
The result is 11.
What is the number?*
.....

C: Solving equations

Solve these equations. Show your working.

- | | | |
|---------------------|-----------------------|----------------------|
| 1. $a + 17 = 28$ | 2. $b - 17 = 25$ | 3. $11 + c = 24$ |
| | | |
| 4. $d - 19 = 12$ | 5. $e + 16 = 57$ | 6. $6f = 72$ |
| | | |
| 7. $g \div 7 = 11$ | 8. $47 - h = 24$ | 9. $52 - i = 31$ |
| | | |
| 10. $8j = 64$ | 11. $k \div 9 = 12$ | 12. $4m = 184$ |
| | | |
| 13. $n + 57 = 91$ | 14. $12p = 120$ | 15. $q \div 4 = 15$ |
| | | |
| 16. $3r - 7 = 5$ | 17. $8s + 12 = 52$ | 18. $12t + 9 = 81$ |
| | | |
| 19. $7u + 27 = 83$ | 20. $9v - 19 = 71$ | 21. $13w - 31 = 21$ |
| | | |
| 22. $6(y + 4) = 72$ | 23. $7(z - 7) = 63$ | 24. $8(a + 6) = 96$ |
| | | |
| 25. $9(b - 8) = 27$ | 26. $10(c + 3) = 110$ | 27. $11(d - 6) = 66$ |
| | | |

D: Word problems

Write an equation for this word problem, then work out the answer.



- David likes playing cricket. This week he scored seven more than four times as many runs as last week. If he scored 67 runs this week, how many runs did David score last week?

Equation:

Working out:
.....
.....

Comments:

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AWS



Statistics

L4MR

34

S1

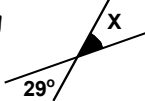

Homework / Assessment Worksheet

Name: _____

Class: _____


Complete by: _____

A: 10 'Quick Questions'

- $8 + 5 \times 9 + 5 = \dots\dots\dots$
- Calculate $14^2 = \dots\dots\dots$
- Find the next four numbers of the sequence 3, 8, 13, $\dots\dots\dots$
- Convert $\frac{1}{2}$ to a percentage $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$ 
- Find $\frac{1}{4}$ of \$48.80
 $\dots\dots\dots$
- Estimate $408.86 \div 4.95$ by rounding first
 $\dots\dots\dots \div \dots\dots\dots = \dots\dots\dots$
- Shade in 33.3% of these circles 
- $7.5 \div 1000 = \dots\dots\dots$
- If the perimeter of a square is 48cm, how long is each side? $\dots\dots\dots$

B: Statistical words

Complete these sentences, using the words listed in the box.

- In statistics, a group of anything such as the trees in your garden is called a $\dots\dots\dots$
- A $\dots\dots\dots$ is part of the population we are interested in. 
- If we wish to comment about a population, we often $\dots\dots\dots$ a population or a sample of the population.
- For the results of a survey to apply to the whole population the sample must be a $\dots\dots\dots$
- A sample that is not a representative sample is called a $\dots\dots\dots$ sample.
- A $\dots\dots\dots$ sample means that every person, or item, has an equal chance of being chosen.
- A $\dots\dots\dots$ is one way to obtain people's opinions.

sample	questionnaire	population	survey
random	biased	representative	sample

C: Designing a questionnaire

A questionnaire is used when we are asking opinions about an issue. The design of a questionnaire is important. List 4 points that you should consider when designing a questionnaire.

- $\dots\dots\dots$
- $\dots\dots\dots$
- $\dots\dots\dots$
- $\dots\dots\dots$

A new teacher wants to find out more about the pupils in his /her class.

Write three questions that this teacher may ask, that require a 'yes' / 'no' answer.

- $\dots\dots\dots$
- $\dots\dots\dots$
- $\dots\dots\dots$

Write a question that this teacher may ask, that requires a choice of answers. Include the choice of answers for your question.

- $\dots\dots\dots$

D: What would you investigate?

What issues in your school, community, town, city or country are you interested in or worried about?



List three issues you are concerned about in order of most important first.

- $\dots\dots\dots$
- $\dots\dots\dots$
- $\dots\dots\dots$

A new teacher wants to find out more about the pupils in his /her class.

Write three questions that this teacher may ask, that require a 'yes' / 'no' answer.

- $\dots\dots\dots$
- $\dots\dots\dots$
- $\dots\dots\dots$

Write a question that this teacher may ask, that requires a choice of answers. Include the choice of answers for your question.

- $\dots\dots\dots$



Comments: $\dots\dots\dots$

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AWS



Statistics

L4MR

35

S2 / S3

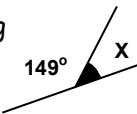

Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $19 - 4 \times 4 + 7 = \dots\dots\dots$
- Convert 515mm to cm .
.....
- Change 17:25 in 24hr time to a.m or p.m. time
.....
- Calculate 3^3
- Find the missing angle X
X = 
- Find $\frac{1}{2}$ of \$29.50
.....
- Estimate 102.56×9.63 by rounding first
..... \times =
- Shade in 66.6% of these circles 
- $8.6 \times 1000 = \dots\dots\dots$
- Circle the digit that represents the tenths in the number 26.359

B: Types of data / frequency tables

There are two types of data that can be collected, **discrete** data and **continuous** data. Complete these sentences using these words.

- Data that is obtained by **counting** is called data.
- Data that is obtained by **measuring** is called data.




Sally recorded the number of library books each pupil in Rooms 4 and 5 read in one week.

3. **Organise** this data in the frequency table below.

Number of books	Tally	F
1		
2		
3		
4		


Number of books each pupil read

2, 4, 1, 3, 4, 2, 3, 1, 4,
2, 4, 3, 1, 3, 2, 4, 3, 2,
1, 3, 2, 4, 3, 3, 2, 1, 1,
2, 4, 3, 3, 1, 2, 3, 2, 1,
2, 3, 2, 1, 3, 2, 2, 1, 3,
2, 4, 2, 3, 2, 3, 2, 4, 1,
2, 3, 2, 4, 3, 2, 1, 2, 4

4. What was the most common number of books read? 
5. How many pupils read at least 3 books?
6. How many pupils in Rooms 4 and 5?

C: More frequency tables

When there is large range of data scores, data can be grouped to avoid having too many rows in the frequency table.

The following data shows the number of Lego blocks used to create some models. 

8, 11, 24, 27, 31, 18, 40, 9,
21, 35, 9, 28, 36, 22, 38,
27, 15, 37, 8, 27, 29, 17,
16, 24, 35, 40, 16, 26, 13,
24, 36, 35, 26, 27, 18, 9,
23, 27, 34, 39, 16, 23, 17,
11, 26, 13, 25, 8, 38

Number of blocks	Tally	F
1 - 10		
11 - 20		
21 - 30		
31 - 40		


1. **Organise** the data into the frequency table.
2. What numbers occur in the class interval or group 21 to 30.
3. How many Lego models had at least 21 blocks?
4. How many Lego models had no more than 30 blocks?
5. How many Lego models were made altogether?.....

D: Collecting data

If you are at school or at home, collect this data about these objects in your house or your classroom.

Number of ...	Tally	F
windows		
doors		
tables		
chairs		
light bulbs		
televisions		
radios		



What was the most common object you counted? 

.....



Comments:

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AWS



Statistics

L4MR

36

S3

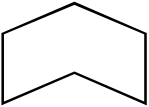

Homework / Assessment Worksheet

Name: _____

Class: _____

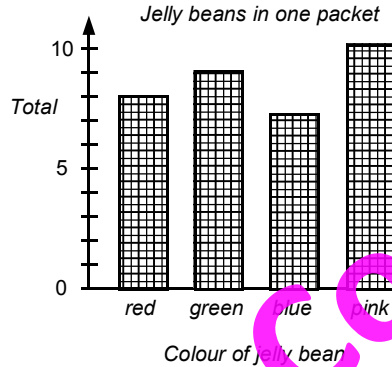
Complete by: _____

A: 10 'Quick Questions'

- $12 + 32 \div 4 - 5 = \dots\dots\dots$
- $560\text{cm} = \dots\dots\dots \text{m}$
- Find the next four numbers of the sequence 6, 15, 24, $\dots\dots\dots$
- Convert 7:05 p.m. to 24hr time $\dots\dots\dots$
- Draw in the lines of symmetry 
- Find $\frac{1}{4}$ of \$36.40 $\dots\dots\dots$
- Estimate $805.9 + 496.9$ by rounding first $\dots\dots\dots + \dots\dots\dots = \dots\dots\dots$
- Shade in 25% of these circles 
- $9.6 \div 1000 = \dots\dots\dots$
- If the area of a square is 25cm^2 , how long is each side? $\dots\dots\dots$

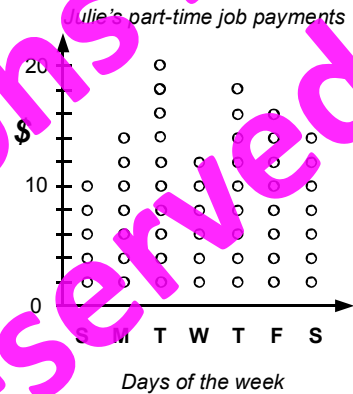
B: Interpreting column & dot plot graphs

Study each graph then answer the questions.



- What does this graph show? $\dots\dots\dots$
- How many red jelly beans? $\dots\dots\dots$
- There were 7 of which colour jelly bean? $\dots\dots\dots$
- How many jelly beans in this packet? $\dots\dots\dots$

- What does this graph show? $\dots\dots\dots$
- How much did Julie earn on Monday? $\dots\dots\dots$
- On which day did she earn \$16.00? $\dots\dots\dots$
- How much did Julie earn in this week? $\dots\dots\dots$



C: Creating a column graph

Carl recorded his test scores for the '10 Quick Questions' for one week.

Day	Test scores
Monday	8
Tuesday	7
Wednesday	9
Thursday	6
Friday	10

Draw a column graph to display his results.

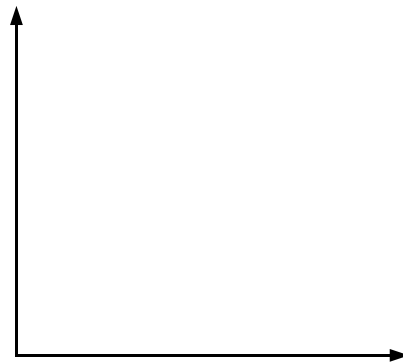


D: Creating a dot plot graph

Carl recorded the number of books Rooms 3 & 4 pupils read in one week.

- 2, 1, 6, 5, 2, 4, 4, 1, 0, 3, 5, 6, 2, 5, 4, 3, 4, 1, 2, 6, 3, 1, 4, 4, 1, 2, 3, 6, 4, 5, 3, 1, 4, 3, 1, 2, 3, 5, 5, 4, 1, 6, 0, 0, 3,

Draw a dot plot graph to display this data.



Comments: $\dots\dots\dots$

Please sign:
Parent / Caregiver

AWS



Statistics

L4MR

37

S3

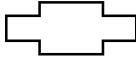
Homework / Assessment Worksheet

Name: _____

Class: _____

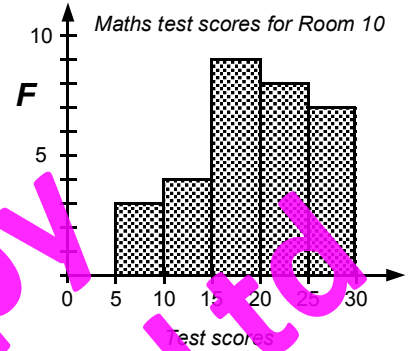
Complete by: _____

A: 10 'Quick Questions'

- $4 \times 7 + 9 \times 2 =$
- $8600\text{m} =$ km
- Find the next four numbers of the sequence 5, 12, 19,
- Convert 60% to a decimal
- Draw in the lines of symmetry 
- Solve the equation $3y + 7 = 25$ $y =$
- Estimate 595.32×2.07 by rounding first
..... \times =
- Place the sign $<$ or $>$ in the gap 12.81 12.74
- $9.1 \div 100 =$
- Circle the digit that represents the units in the number1962

B: Understanding histograms

- What does this graph show?
.....
- What scores are represented in the class interval 15 - 19?
.....
- How many pupils scored less than 15?
- How many pupils scored more than 20?
- How many pupils in Room 10 sat the test?



- What does this graph show?
.....
- What scores are represented in the class interval 8 - 11?
.....
- How many fish weighed less than 12kg?
- How many fish were caught altogether?

C: Creating a histogram

A local toy shop had a sale. The owner recorded data about the price of the toys sold and this is shown below.



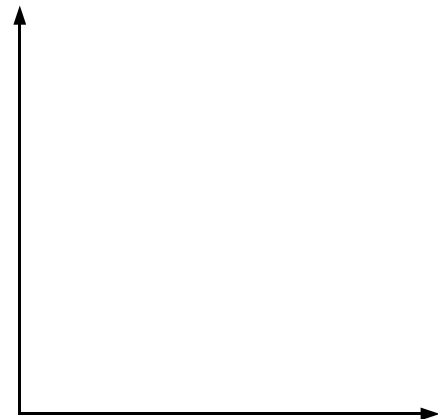
Price of toys sold

\$7.35, \$11.70, \$23.50, \$7.50, \$3.60,
 \$17.80, \$21.50, \$12.65, \$14.40, \$8.95,
 \$22.25, \$12.95, \$20.75, \$13.90, \$8.90,
 \$2.25, \$3.65, \$12.95, \$16.80, \$18.95,
 \$14.60, \$7.80, \$5.40, \$13.95, \$14.75

- Organise this data using the frequency table.

Price paid	Tally	Frequency
\$0 - \$4.99		
\$5.00 - \$9.99		
\$10.00 - \$14.99		
\$15.00 - \$19.99		
\$20.00 - \$24.99		

- Draw a histogram to display this data.



Comments:

Please sign:
Parent / Caregiver

AWS



Statistics

38

S3

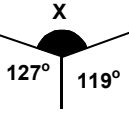
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $6 \times 8 - 9 \times 4 =$
- Calculate $\sqrt{196} =$
- Round \$19.46 to the nearest dollar
- If the perimeter of a square is 20cm, what is the area?
- Find the missing angle X

 X =
- Solve the equation $3y - 5 = 22$ y =
- Change 13:25 in 24hr time to a.m or p.m. time
.....
- Place the sign < or > in the gap 17.081 17.083
- $1.9 \times 0.8 =$
- Measure the length of this line to the nearest mm
.....

B: Understanding stem & leaf graphs

- What does this graph show?
.....
.....
- What was the top mark in this test?
.....
- List the scores represented by this graph.
.....
.....
.....
.....
- How many pupils scored above 20?
- How many pupils in Room 7?

Test results for pupils in Room 7

1	3, 4, 8, 7, 4, 2
2	5, 9, 3, 8, 9, 0, 4
3	7, 5, 4, 2, 1, 9, 4, 0
4	0, 0

Lap times for a car race (seconds)

31	6, 3, 8, 1, 0, 9, 3
32	3, 6, 8, 5, 1
33	3, 6, 9
34	6, 3, 0, 8, 9

- What does this graph show?
- What was the fastest lap time?
- What was the slowest lap time?
- Convert the fastest and slowest lap times to min / sec.
fastest time =, slowest time =
- How many cars in this race?

C: Creating a stem & leaf graph

Pupils in Room 7 had an English test and a Mathematics test last week. The test was marked out of 50 and scores are shown below.

English test scores

18, 25, 37, 40, 49, 49,
47, 35, 23, 17, 17, 28,
30, 41, 45, 34, 23, 28,
27, 29, 30

Mathematics test scores

10, 28, 26, 39, 38, 43,
50, 28, 27, 40, 32, 50,
43, 39, 50, 27, 39, 48,
42, 17, 50

- Organise this data as a **back-to-back** stem & leaf graph.
- What are the highest and lowest scores for each test?
English:,,,,,
Mathematics:,,,,
- Look at the stem & leaf graph you have created and **comment** about the results of the tests.

.....

.....

.....

.....

.....

.....



Comments:

Please sign: Parent / Caregiver



Statistics

L4MR

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S3


Homework / Assessment Worksheet

Name: _____

Class: _____

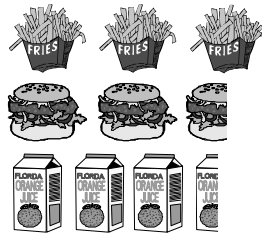
Complete by: _____

A: 10 'Quick Questions'


- $9 \times 7 + 6 \times 3 = \dots\dots\dots$
- $5700\text{mL} = \dots\dots\dots\text{L}$
- Find the next four numbers of the sequence 2, 13, 24, $\dots\dots\dots$
- Convert 40% to a decimal $\dots\dots\dots$
- Draw in the lines of symmetry 
- Solve the equation $5h + 17 = 57$ $h = \dots\dots\dots$
- Estimate 508.32×9.83 by rounding first $\dots\dots\dots \times \dots\dots\dots = \dots\dots\dots$
- Place the sign $<$ or $>$ in the gap $0.0231 \dots\dots\dots 0.0237$
- $33.6 \div 0.5 = \dots\dots\dots$
- Circle the digit that represents the tenths in the number 96.438


B: Understanding pictograms


Food items sold in a day



Key

 = fries

 = hamburgers

 = juice


Each picture = 10 items


- How many of each item was sold?
fries $\dots\dots\dots$
hamburgers $\dots\dots\dots$
juice $\dots\dots\dots$


C: Understanding pie graphs and strip graphs

Weather conditions in two cities

Key

 = sunny

 = cloudy

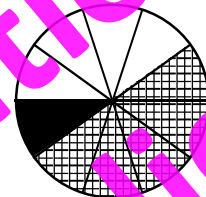
 = raining

1 square / sector = 6 days



The pie graph and strip graph show the weather conditions in two cities.

- Work out** the number of days it was sunny, cloudy or raining in each city



Pie graph *Strip graph*

sunny = $\dots\dots\dots$ days sunny = $\dots\dots\dots$ days

cloudy = $\dots\dots\dots$ days cloudy = $\dots\dots\dots$ days

raining = $\dots\dots\dots$ days raining = $\dots\dots\dots$ days

- The weather conditions were recorded for $\dots\dots\dots$ days.


D: Creating a pictogram, a strip graph and a pie graph


Katie recorded the number of each type of book she has read


Number of each type of book read


Type of book	F
adventure	12
nature	16
fiction	8
travel	4
	40

Key

 = $\dots\dots\dots$

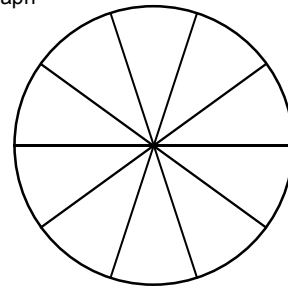
 = $\dots\dots\dots$

 = $\dots\dots\dots$

 = $\dots\dots\dots$

1 picture / square / sector = $\dots\dots\dots$ books

Pie graph



Use this data to create $\dots\dots\dots$

Strip graph



a pictogram

a strip graph

and a pie graph.

Pictogram

Remember to create a key, stating how many books each picture, square and sector represents.



Comments: $\dots\dots\dots$

Please sign:
Parent / Caregiver

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Statistics

L4MR

40

S3

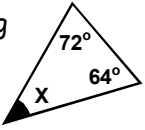
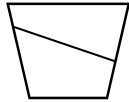
Homework / Assessment Worksheet

Name: _____

Class: _____

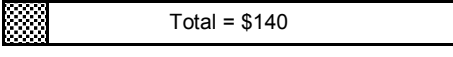
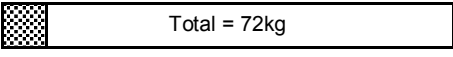
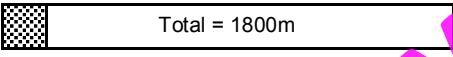
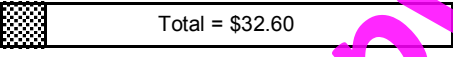
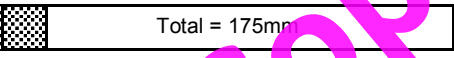
Complete by: _____

A: 10 'Quick Questions'

- $19 - 24 \div 8 + 4 = \dots\dots\dots$
- Calculate $30^2 = \dots\dots\dots$
- What would nine books at \$8.25 each cost?
.....
- Convert 0.75 to a percentage
.....
- Find the missing angle X
X =

- Find 10% of \$127.50
.....
- Shade in the acute angles in this diagram

- Solve the equation $4y - 9 = 31$ $y = \dots\dots\dots$
- $9.5\text{km} = \dots\dots\dots\text{m}$
- If the temperature is 4°C then drops 6°C , the new temperature is
.....

B: Creating percentage bar graphs

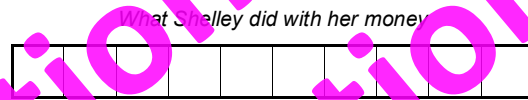
For each percentage bar graph, work out 10% of the total.

-  10% =
-  10% =
-  10% =
-  10% =
-  10% =




Shelley spent 30% of her money on food, 50% she saved and 20% she spent on a birthday present.



6. Complete this percentage bar graph to display this data.



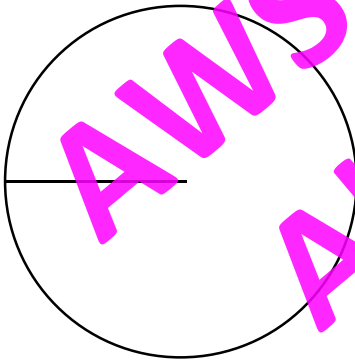
Key

-  =
-  =
-  =

- If Shelley had \$85.00, how much does 10% represent?
- Complete this statement.
Shelley spent \$..... on food, saved \$..... and spent \$..... on a birthday present.

C: Pie graph calculations

- Draw a pie graph with the sector angles of 50° , 140° and 170° .



If one degree represents \$6.00, how much does each sector equal?

- $50^\circ = \$\dots\dots\dots$
- $140^\circ = \$\dots\dots\dots$
- $170^\circ = \$\dots\dots\dots$




D: Creating a pie graph using a protractor

This frequency table shows the weather conditions recorded daily.

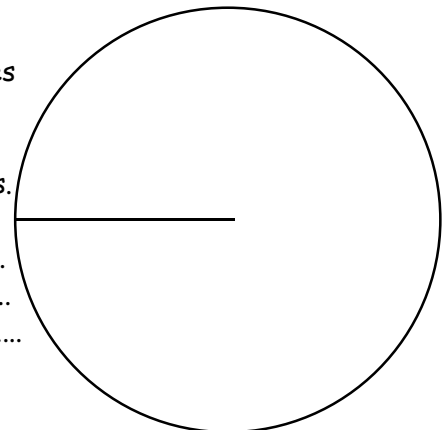
Weather conditions recorded for 60 days

Weather	Days
sunny	32
cloudy	16
raining	8
snowing	4
	60

Key

-  =
 -  =
 -  =
- 1 day = degree

- Calculate how many degrees represents one day.
 $360^\circ \div \dots\dots\dots = \dots\dots\dots$
- Calculate the sector angles.
sunny =
cloudy =
raining =
snowing =
- Complete the key and pie graph using a protractor.



Comments:

Please sign:
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Statistics

L4MR



S4


Homework / Assessment Worksheet

Name: _____

Class: _____

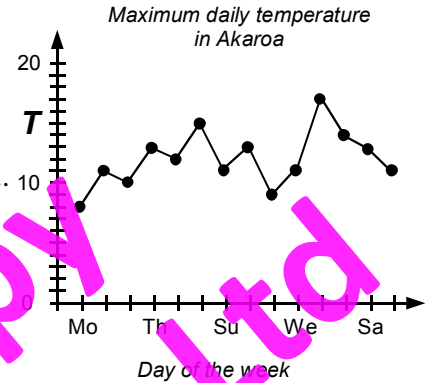
Complete by: _____

A: 10 'Quick Questions'

- $9 \times 7 - 6 \times 8 = \dots\dots\dots$
- $9.125g = \dots\dots\dots mg$
- Find the next four numbers of the sequence 2, 10, 18, $\dots\dots\dots$
- Convert 70% to a decimal $\dots\dots\dots$
- Draw in the line(s) of symmetry 
- Solve the equation $7h + 15 = 78$ $h = \dots\dots\dots$
- Estimate $887.32 \div 9.53$ by rounding first $\dots\dots\dots \div \dots\dots\dots = \dots\dots\dots$
- Convert 7:15 p.m. to 24hr time $\dots\dots\dots$
- $54.8 \div 0.5 = \dots\dots\dots$
- Circle the digit that represents the tens in the number 43.217

B: Understanding time-series graphs

- What does this graph show?
 $\dots\dots\dots$
- For how many days was the temperature recorded? $\dots\dots\dots$
- What was the temperature on the 1st Monday? $\dots\dots\dots$
- On which day was the temperature $9^\circ C$?
 $\dots\dots\dots$
- What was the temperature on the 2nd Friday? $\dots\dots\dots$
- On how many days was the temperature $13^\circ C$? $\dots\dots\dots$
- What was the temperature on the 1st Thursday? $\dots\dots\dots$
- On how many days was the temperature $17^\circ C$? $\dots\dots\dots$



C: Creating a time-series graph

Record how long it takes you to complete each set of '10 Quick Questions'. Display your results on a time-series graph.

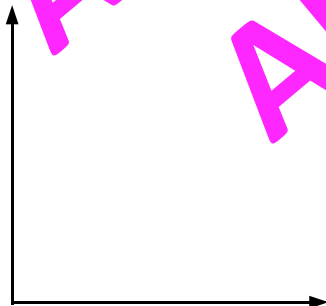
Set A	Set B	Set C	Set D
$9 + 14 = \dots\dots\dots$	$8 + 18 = \dots\dots\dots$	$7 + 30 = \dots\dots\dots$	$58 + 6 = \dots\dots\dots$
$23 + 8 = \dots\dots\dots$	$24 + 8 = \dots\dots\dots$	$38 + 6 = \dots\dots\dots$	$8 + 45 = \dots\dots\dots$
$21 - 9 = \dots\dots\dots$	$33 - 7 = \dots\dots\dots$	$32 - 14 = \dots\dots\dots$	$30 - 11 = \dots\dots\dots$
$42 - 8 = \dots\dots\dots$	$57 - 9 = \dots\dots\dots$	$53 - 13 = \dots\dots\dots$	$72 - 23 = \dots\dots\dots$
$5 \times 9 = \dots\dots\dots$	$6 \times 8 = \dots\dots\dots$	$7 \times 11 = \dots\dots\dots$	$9 \times 8 = \dots\dots\dots$
$6 \times 8 = \dots\dots\dots$	$9 \times 9 = \dots\dots\dots$	$9 \times 9 = \dots\dots\dots$	$6 \times 9 = \dots\dots\dots$
$4 \times 10 = \dots\dots\dots$	$9 \times 6 = \dots\dots\dots$	$5 \times 12 = \dots\dots\dots$	$9 \times 7 = \dots\dots\dots$
$32 \div 4 = \dots\dots\dots$	$42 \div 6 = \dots\dots\dots$	$48 \div 8 = \dots\dots\dots$	$56 \div 8 = \dots\dots\dots$
$35 \div 7 = \dots\dots\dots$	$63 \div 9 = \dots\dots\dots$	$45 \div 9 = \dots\dots\dots$	$77 \div 7 = \dots\dots\dots$
$40 \div 4 = \dots\dots\dots$	$32 \div 4 = \dots\dots\dots$	$114 \div 3 = \dots\dots\dots$	$84 \div 4 = \dots\dots\dots$
Time taken: <input type="text"/>	Time taken: <input type="text"/>	Time taken: <input type="text"/>	Time taken: <input type="text"/>

D: Collecting data

Select a city and record the daily temperature for 5 days, (or make up some temperatures)

Day	M	T	W	Th	F
$^\circ C$					

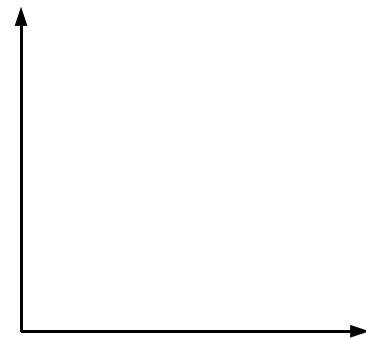
Graph your results below.



Set E

- $7 + 17 = \dots\dots\dots$
- $45 + 9 = \dots\dots\dots$
- $36 - 11 = \dots\dots\dots$
- $53 - 25 = \dots\dots\dots$
- $9 \times 6 = \dots\dots\dots$
- $8 \times 7 = \dots\dots\dots$
- $6 \times 11 = \dots\dots\dots$
- $70 \div 7 = \dots\dots\dots$
- $72 \div 9 = \dots\dots\dots$
- $48 \div 4 = \dots\dots\dots$

Time taken:



Comments: $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$

Please sign:
Parent / Caregiver

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Statistics

L4MR



S5

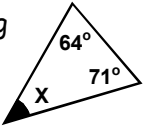

Homework / Assessment Worksheet

Name:

Class:

Complete by:

A: 10 'Quick Questions'

- $27 - 40 \div 4 + 7 = \dots\dots\dots$
- Calculate $1.1^2 = \dots\dots\dots$
- What would 12 books at \$5.35 each cost?
 $\dots\dots\dots$
- Convert 0.85 to a percentage $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$

- Find 20% of \$131.50
 $\dots\dots\dots$
- Shade in the obtuse angles in this diagram

- Solve the equation $9y - 13 = 32$ $y = \dots\dots\dots$
- $4865g = \dots\dots\dots$ kg
- If the temperature is $9^\circ C$ then drops $12^\circ C$, the new temperature is $\dots\dots\dots$

B: Mean, median, mode & range

Fill in the missing words from the box, to complete these sentences.

- To find the 'average' or $\dots\dots\dots$ for a list of scores, first **add** up all the scores, then **divide** by the number of scores you added up.
- The middle score, once the scores are placed in order from smallest to biggest, is called the $\dots\dots\dots$.
- The most common score is called the $\dots\dots\dots$. There may be more than one or none at all.
- The highest score - lowest score is called the $\dots\dots\dots$.

range mode median mean

C: Finding the mean

Find the **mean** for each list of scores.

- 9, 11, 13 $\dots\dots\dots$
- 8, 8, 11, 13 $\dots\dots\dots$
- 5, 10, 6, 7, 9, 5 $\dots\dots\dots$
- 6, 9, 7, 5, 4, 6, 5 $\dots\dots\dots$
- 15, 13, 12, 18 $\dots\dots\dots$
- 8, 105, 67, 34 $\dots\dots\dots$

D: Finding the median

Find the **median** for each list of scores.

Remember the scores must be in order.

- 8, 10, 12, 14, 16 $\dots\dots\dots$
- 6, 9, 11, 16, 19 $\dots\dots\dots$
- 10, 13, 17, 18 $\dots\dots\dots$
- 14, 20, 22, 26 $\dots\dots\dots$
- 7, 19, 22, 12, 14 $\dots\dots\dots$ median = $\dots\dots\dots$
- 8, 4, 12, 6, 10, 13 $\dots\dots\dots$ median = $\dots\dots\dots$



F: Finding the range

Find the range for these lists of scores.

- 3, 6, 9, 13, 15 $\dots\dots\dots$
- 18, 4, 12, 2, 10 $\dots\dots\dots$
- 9, 0, 13, 22, 5 $\dots\dots\dots$
- 14, 28, 42, 35, 10 $\dots\dots\dots$
- Five houses were sold for the following prices:
\$158000
\$189500
\$142900
\$163990
\$176500



Calculate the range of the house prices $\dots\dots\dots$

- If the dearest house sold for \$210500 and the range was \$68900, what would the cheapest house sell for? $\dots\dots\dots$

E: Finding the mode

Find the **mode** for each list of scores.

- 5, 5, 7, 9, 11, 10 $\dots\dots\dots$
- 9, 8, 6, 9, 7, 8 $\dots\dots\dots$
- 5, 13, 12, 8, 4 $\dots\dots\dots$
- 4, 9, 11, 6, 7, 9, 7 $\dots\dots\dots$
- 6, 6, 8, 9, 10, 12, 8 $\dots\dots\dots$
- 4, 9, 10, 5, 6, 5, 9 $\dots\dots\dots$

G: Word Problems

In the first nine holes of golf, Greg recorded the following scores. (5, 6, 5, 8, 9, 5, 4, 5, 7)

- Find his mean score. $\dots\dots\dots$
- What was the range of his scores? $\dots\dots\dots$
- What was the mode score? $\dots\dots\dots$
- List the scores from lowest to highest.
 $\dots\dots\dots$
- What was the median for his golf scores? $\dots\dots\dots$



In the next nine holes, Greg recorded the following scores.

(5, 4, 8, 8, 4, 6, 7, 5, 6)

- Combine the two sets of nine scores to find the new median.
 $\dots\dots\dots$
New median = $\dots\dots\dots$



Comments: $\dots\dots\dots$

Please sign:
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Statistics

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S6 / S7

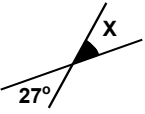

Homework / Assessment Worksheet

Name: _____

Class: _____

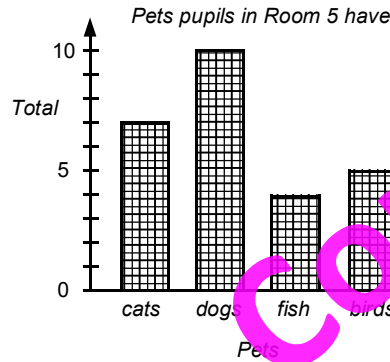
Complete by: _____

A: 10 'Quick Questions'

- $11 + 5 \times 7 - 6 = \dots\dots\dots$
- Convert 7:35 a.m. to 24hr time $\dots\dots\dots$
- Solve the equation $6h + 17 = 47$ $h = \dots\dots\dots$
- Convert 65% to a fraction $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$

- Find $\frac{3}{4}$ of \$28.80
 $\dots\dots\dots$
- Estimate $492.98 \div 10.86$ by rounding first
 $\dots\dots\dots \div \dots\dots\dots = \dots\dots\dots$
- Shade in 40% of these circles 
- $2.9 \div 10000 = \dots\dots\dots$
- If the perimeter of a square is 60cm, how long is each side? $\dots\dots\dots$

B: Interpreting data displays

- The column graph below shows the number of each type of pet that pupils in Room 5 have.



Sally said, "Most pupils have pet dogs."
Is her statement correct?
 $\dots\dots\dots$

- During the cricket season two players scored many runs. "I'm a better batsman as I have a top score of 59." said Richard. Is this statement correct?
 $\dots\dots\dots$

Richard's scores

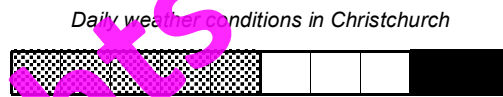
32, 64, 18, 27, 32, 25

David's scores




46, 50, 41, 47, 37, 31

C: Creating a statistical report

This strip graph shows the daily weather conditions in Christchurch during June. Use this display to write a report about the weather conditions.



Key

-  = sunny
-  = cloudy
-  = raining

1 square = 3 days

- $\dots\dots\dots$



Competition results

4	5, 7, 9, 8,
5	7, 4, 1, 9, 0, 2
6	1, 7, 0, 6, 3
7	4, 5, 9, 0, 3

This stem & leaf graph shows the distance a frisbee was thrown in a competition. The distances in this graph are in metres.

Use this display to write a report about the competition.

- $\dots\dots\dots$



Comments: $\dots\dots\dots$

Please sign:
Parent / Caregiver

AWS



Statistics

L4MR



S8

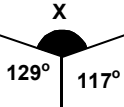
Homework / Assessment Worksheet

Name:

Class:

Complete by:

A: 10 'Quick Questions'

- $7 \times 7 - 5 \times 6 = \dots\dots\dots$
- Calculate $\sqrt{144} = \dots\dots\dots$
- Round \$41.86 to the nearest dollar $\dots\dots\dots$
- If the perimeter of a square is 32cm, what is the area? $\dots\dots\dots$
- Find the missing angle X
X = $\dots\dots\dots$

- Solve the equation $6y - 14 = 34$ $y = \dots\dots\dots$
- Change 18:05 in 24hr time to a.m or p.m. time $\dots\dots\dots$
- Convert 60% to a decimal $\dots\dots\dots$
- $4.7 \times 0.8 = \dots\dots\dots$
- Measure the length of this line to the nearest mm $\dots\dots\dots$

B: Relative frequency / probability scales

The **relative frequency** of an event is the proportion or fraction of times the event occurs.

A die is rolled 150 times and the results are shown in this table

Number	F
1	24
2	26
3	30
4	19
5	26
6	25

- Find the relative frequency of each number occurring

- 1 = $\dots\dots\dots$ 2 = $\dots\dots\dots$
 3 = $\dots\dots\dots$ 4 = $\dots\dots\dots$
 5 = $\dots\dots\dots$ 6 = $\dots\dots\dots$

This frequency table was used to record the results as two coins were tossed.

Event	Tally	F
HH	### ##	
HT	### ## III	
TH	### ## II	
TT	### ## ##	

- Complete the frequency column in the table.
- How many times were the coins tossed? $\dots\dots\dots$
- What is the relative frequency of the event 'TT'? $\dots\dots\dots$
- Which event had a relative frequency of $\frac{17}{70}$? $\dots\dots\dots$
- What is the relative frequency of the events 'HT' and 'TH' combined? $\dots\dots\dots$
- Mark on the **probability scale** below the events 'TT', 'HH' and 'HT' / 'TH' combined.



C: Experiment & Investigation

Select a card from a pack of cards 30 times, replacing the card each time. Record the results in the table below.

heart	
diamond	
spade	
clubs	



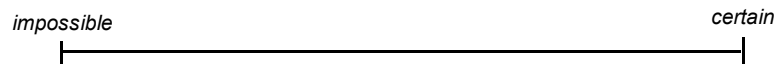
Based on your results, what is the relative frequency of selecting each suit?

- hearts = $\dots\dots\dots$
 diamonds = $\dots\dots\dots$
 spades = $\dots\dots\dots$
 clubs = $\dots\dots\dots$

Michelle has a bag of Lego blocks containing different coloured blocks. This table shows how many of each coloured Lego block is in the bag.

(R) red	(W) white	(B) blue	(G) green	(Y) yellow
15	20	40	25	100

- How many Lego blocks does Michelle have? $\dots\dots\dots$
- If a ball is selected from the bag, calculate the **relative frequency** of selecting each colour of block.
 red = $\dots\dots\dots$ white = $\dots\dots\dots$
 blue = $\dots\dots\dots$ green = $\dots\dots\dots$
 yellow = $\dots\dots\dots$
- If the relative frequency of selecting a ball is 10%, which colour ball has been selected? $\dots\dots\dots$
- Mark on the **probability scale** below the events of choosing each colour of Lego blocks.



Comments: $\dots\dots\dots$

Please sign:
Parent / Caregiver

AWS



S9

Statistics

L4MR



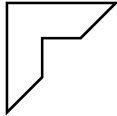
Homework / Assessment Worksheet

Name: _____

Class: _____

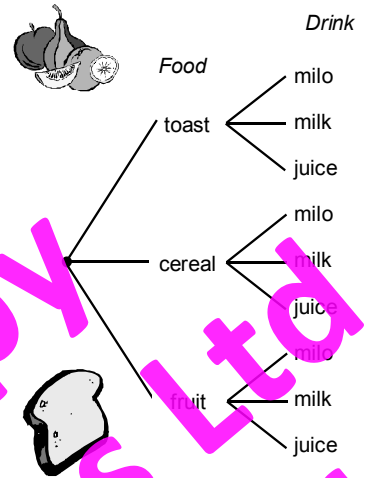
Complete by: _____

A: 10 'Quick Questions'

- $9 \times 11 - 9 \times 7 = \dots\dots\dots$
- $367\text{cm} = \dots\dots\dots\text{m}$
- Find the next four numbers of the sequence 1, 14, 27, $\dots\dots\dots$
- Convert 35% to a decimal $\dots\dots\dots$
- Draw in the line(s) of symmetry 
- Solve the equation $8h + 24 = 72$ $h = \dots\dots\dots$
- Estimate 452.53×2.95 by rounding first $\dots\dots\dots \times \dots\dots\dots = \dots\dots\dots$
- Convert 7:48 a.m. to 24hr time $\dots\dots\dots$
- $31.6 \div 0.5 = \dots\dots\dots$
- Circle the digit that represents the tenths in the number 2.3698

B: Listing outcomes

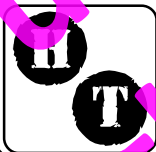
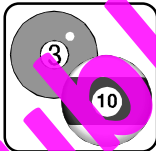
Rebecca has a choice of one breakfast food and a drink. Use the tree diagram to work out all possible combinations or outcomes she has.



- $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$
- How many outcomes are there altogether? $\dots\dots\dots$

C: Creating a tree diagram

- Draw a tree diagram to show all possible outcomes if you select a card, a numbered ball and toss a coin.



- How many possible outcomes are there? $\dots\dots\dots$

D: More outcomes

Karen has a choice of wearing a (Sk) skirt, (T) jeans or (Sh) shorts, with a choice of (Ts) t-shirt, (B) blouse or (Tt) tank-top. This grid shows all possible combinations she could wear.

	Ts	B	Tt
Sk	SKTs	SKB	SKTt
J	JTs	JB	JTt
Sh	ShTs	ShB	ShTt

- What does ShB mean? $\dots\dots\dots$
- What does JTt mean? $\dots\dots\dots$
- How many combinations does Karen have? $\dots\dots\dots$

E: Creating a 'grid' diagram

Two six sided dice are rolled on the table.

- Draw a 'box' diagram to show all possible outcomes.



- How many possible outcomes were there? $\dots\dots\dots$



Comments: $\dots\dots\dots$
 $\dots\dots\dots$
 $\dots\dots\dots$

Please sign:
Parent / Caregiver

AWS



Statistics

L4MR

46

S9

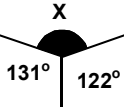
Homework / Assessment Worksheet

Name: _____

Class: _____

Complete by: _____

A: 10 'Quick Questions'

- $7 \times 9 - 6 \times 5 =$
- Calculate $\sqrt{225} =$
- Round \$76.47 to the nearest dollar
- If the area of a square is 64cm^2 , what is the perimeter?
- Find the missing angle X

 X =
- Solve the equation $9y - 27 = 45$ $y =$
- Change 23:25 in 24hr time to a.m or p.m. time
.....
- Convert 15% to a decimal
- $9.6 \times 0.9 =$
- Measure the length of this line to the nearest cm

B: Using probability to predict outcomes

A six-sided die (dice) is rolled several times.

- What is the probability that it lands showing a 4?
- What is the probability that it lands showing a 1 or 2?
- What is the probability that it lands showing a number greater than 2?
- If a die is rolled 180 times, how many times would you expect it to land showing a 5?
- If a die is rolled 240 times, how many times would you expect it to land showing a number less than 3?



A local shop-keeper kept a record of the number of different drinks that he sold to pupils in one day. This table shows the result.

Drink	Number sold
Coca Cola	50
Fanta	30
Flavoured milk	20
Fruit juice	15
Ginger beer	5

- How many drinks has he sold altogether?
- What is the probability that a pupil had a drink of Coca Cola?
- What is the probability that a pupil had a drink of fruit juice?
- 20 out of 120 pupils chose which drink?
- If 60 pupils ordered drinks, how many Fanta drinks would the shop-keeper expect to sell?
- If 360 pupils ordered drinks, how many fruit juice drinks would the shop-keeper expect to sell?

C: Probability

The calendar below is for June

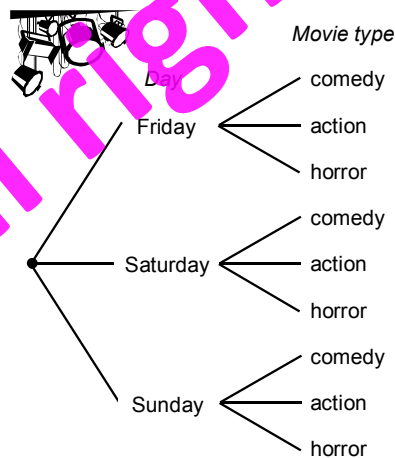
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Mary is going to go to the movies in June.

- What is the probability she will go on a Sunday or a Thursday?
Sunday Thursday
- What is the probability that she will go during the third week?
- What is the probability she will go the weekend?

Jim wants to go to the movies.

The tree diagram below shows the choices he has to make.



- How many outcomes does Jim have to choose from?
- What is the probability that Jim goes to the movies on Saturday?
- What is the probability that Jim goes to a horror movie?
- What is the probability that Jim goes to a comedy movie on a Friday?
- What is the probability that Jim goes to a comedy movie on Friday, Saturday or Sunday?



Comments:

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Homework / Assessment Worksheet

Worksheet 1

A:

1. 45.4 2. 177 3. 5620 4. 5 5. rectangle 6. \$51.30 7. 06:45 8. \$9.15 9. 9.3km
10. \$43.75

B:

1. prime 2. multiples 3. factor 4. prime factor

C:

- 3, 5, 7, 11, 13, 17, 19, 23, 31, 37, 43, 47, 53, 61

D:

1. 18, 27, 36, 45, 54, 63 2. 14, 21, 28, 35, 42, 49 3. 24, 36, 48, 60, 72, 84
4. 12, 18, 24, 30, 36, 42 5. 28, 42, 56, 70, 84, 98 6. 50, 75, 100, 125, 150, 175
7. 60, 90, 120, 150, 180, 210 8. 11, 22, 33, 44, 55 9. 77, 88, 99, 110

E:

1. 1, 2, 5, 10 2. 1, 2, 3, 6, 9, 18 3. 1, 3, 7, 21 4. 1, 5, 25 5. 1, 2, 4, 8, 16, 32
6. $2 \times 7 = 14$ 7. $2 \times 11 = 22$ 8. $5 \times 7 = 35$

F:

1. 29 2. 72 3. 15 4. 60

Worksheet 2

A:

1. 2737 2. 181 3. 23760 4. 170 5. \$33.25 6. \$57.75 7. 1000
8. \$7.25 9. 7800m 10. \$51.45

B:

1. 9m 2. 5m, 8m, 10m 3. -1m, -4m, -6m, -7m 4. -3m

C:

1. -3°C 2. -5°C , 3°C , -4°C , 10°C , -1°C

D:

1. 1 2. 5 3. -4 4. 5 5. -4 6. -1 7. -3 8. 1 9. -6 10. 3 11. 4 12. -3 13. -11
14. -12

E:

1. $-\$170$ 2. $\$45$ 3. $-\$80$

F:

$$6 + -3 + -5 + 2 + 4 + -5 = -1$$

Worksheet 3

A:

1. 45.6 2. 112 3. 3828 4. 8 5. pentagon 6. \$53.60 7. 06:15 8. \$4.39 9. 9.6kg
10. \$74.80

B:

1. $6 \times 6 = 36$ 2. 9 3. 64 4. 49 5. 121 6. 100 7. 25 8. 144 9. 36 10. 16 11. 81
12. 256 13. 196 14. 400 15. 900 16. 2500 17. 3600 18. 7 19. 5 20. 6 21. 10
22. 11 23. 12 24. 15 25. 20 26. 30 27. 14

C:

1. $2 \times 2 \times 2 = 8$ 2. 27 3. 64 4. 125 5. 216 6. 343 7. 512 8. 1000 9. 8000

D:

1. 4^3 2. 6^5 3. 10^6 4. 16 5. 81 6. 32 7. 625 8. 256 9. 10000

E:

1. 100 2. 64 3. 125 4. 64



Worksheet 4

A:

1. 2450 2. 328 3. 59120 4. 142 5. \$33.12 6. \$65.20 7.
8. \$8.25 9. 630mm 10. \$73.35



B:

1. $A = \frac{2}{3}$, $B = \frac{2}{5}$, $C = \frac{4}{10}$, $D = \frac{4}{6}$, $E = \frac{4}{8}$, $F = \frac{1}{2}$ 2. $\frac{1}{2} = \frac{4}{8}$, $\frac{2}{3} = \frac{4}{6}$, $\frac{2}{5} = \frac{4}{10}$

C:

1. $\frac{4}{16}$ 2. $\frac{7}{28}$ 3. $\frac{9}{15}$ 4. $\frac{15}{35}$ 5. $\frac{20}{24}$ 6. $\frac{30}{48}$ 7. $\frac{14}{63}$ 8. $\frac{21}{30}$ 9. $\frac{42}{54}$ 10. $\frac{25}{60}$
11. 3 12. 6 13. 15 14. 12 15. 20 16. 30 17. 24 18. 2
19. possible answer: $\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20} = \frac{10}{25} = \frac{12}{30}$ etc.

D:

1. $\frac{8}{16}$ 2. $\frac{12}{36}$ 3. $\frac{5}{20}$ 4. $\frac{6}{30}$ 5. $\frac{6}{9}$ 6. $\frac{18}{24}$ 7. $\frac{24}{60}$ 8. $\frac{16}{28}$ 9. $\frac{25}{45}$

Worksheet 5

A:

1. 61.7 2. 477 3. 8899 4. 8 5. parallelogram 6. \$60.30 7. 07:40 8. \$4.65
9. 5450mg 10. \$40.25

B:

1. 0.5 2. 0.25 3. 0.2 4. 0.75 5. 0.625 6. 0.7 7. 0.875 8. 0.83 9. 0.9 10. 0.3

C:

1. $\frac{7}{10}$ 2. $\frac{7}{100}$ 3. $\frac{7}{1000}$ 4. $\frac{19}{100}$ 5. $\frac{4}{10}$ 6. $\frac{702}{1000}$ 7. $\frac{315}{1000}$ 8. $\frac{135}{10000}$ 9. $\frac{85}{100}$
10. $\frac{3}{10}$ 11. $\frac{725}{1000}$ 12. $\frac{4}{1000}$ 13. $\frac{64}{100}$ 14. $\frac{4}{100}$ 15. $\frac{574}{1000}$

D:

1. 90% 2. 54% 3. 15% 4. 4% 5. 63% 6. 85% 7. 70% 8. 51% 9. 42% 10. 7%
11. 82% 12. 115% 13. 356% 14. 464%

E:

1. 0.35 2. 0.09 3. 0.73 4. 0.16 5. 0.08 6. 0.31 7. 0.51 8. 0.19 9. 0.27 10. 0.081
11. 0.04 12. 2.4 13. 17 14. 4.35

Worksheet

A:

1. 4547 2. 187 3. 22520 4. 163 5. \$35.65 6. \$38.70 7.
8. \$10.50 9. 9.65kL 10. \$51.15



B:

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{1}{3}$	0.3	33.3%
$\frac{2}{5}$	0.4	40%
$\frac{1}{2}$	0.5	50%
$\frac{2}{3}$	0.6	66.6%
$\frac{3}{4}$	0.75	75%

C:

1. $A = \frac{3}{5}$, $B = \frac{1}{3}$, $C = \frac{3}{4}$ 2. $\frac{23}{30}$ 3. $\frac{36}{60}$ 4. $\frac{5}{7}$ 5. $\frac{9}{24}$ 6. -

D:

1. $A = 40%$, $B = 25%$, $C = 50%$ 2. 76% 3. 70% 4. 50% 5. 60% 6. 28%

E:

1. 75% 2. $\frac{8}{10}$ 3. 70% 4. $\frac{9}{30} = \frac{3}{10}$

Worksheet 7

A:

1. 427.9 2. 302 3. 7902 4. 9 5. right-angled triangle 6. \$27.60 7. 09:15 8. \$3.75
9. 678cm 10. \$92.25

B:

1. 20 2. 100 3. 80 4. 100 5. 200 6. 600 7. 1000 8. 5000 9. 5000
10. $380 + 870 = 1250$ 11. $1600 - 1000 = 600$ 12. $5000 \times 20 = 100000$ 13. $3000 \div 50 = 60$
14. $6200 + 9000 = 15200$ 15. $900 \times 100 = 90000$ 16. $2800 - 1500 = 1300$

C:

Estimated distance Actual distance = 560km

$$\begin{array}{r}
 90 \\
 40 \\
 60 \\
 90 \\
 150 \\
 80 \\
 + 50 \\
 \hline
 560\text{km}
 \end{array}$$

D:

Shopping List A


Estimated total	Actual total
$3 \times \$2 = \6	$3 \times \$1.90 = \5.70
$2 \times \$3 = \6	$2 \times \$2.90 = \5.80
$\frac{1}{2} \times \$6 = \3	$\frac{1}{2} \times \$5.90 = \2.95
$1 \times \$8 = \8	$1 \times \$7.90 = \7.90
\$23	\$27.35

Shopping List B

Estimated total	Actual total
$3 \times \$2 = \6	$3 \times \$1.90 = \5.70
$4 \times \$3 = \12	$4 \times \$2.90 = \11.60
$2 \times \$6 = \12	$2 \times \$5.90 = \11.80
$2 \times \$8 = \16	$2 \times \$7.90 = \15.80
\$46	\$44.90

Worksheet 8

A:

1. 2353 2. 321 3. 25560 4. 146 5. \$43.20 6. \$30.25 7. 
8. \$17.50 9. 9150L 10. \$33.00

B:

1. 430 2. 0.087 3. 99000 4. 364000 5. 6.32 6. 0.063 7. 48300 8. 63.21
9. 0.0073 10. 470 11. \$150 12. \$0.40 or 40 cents 13. \$60000

C:

1. 0.63 2. 0.7 3. 0.12 4. 0.0024 5. 0.0175 6. 71 7. 0.7 8. 1.908 9. 0.0558
10. 0.9 11. 15.51 12. 5.222 13. 4.5408 14. 37.80 15. 69 16. 131.2 17. 1.21

18. 2061	19. $\begin{array}{r} 2.86 \\ \times 4.7 \\ \hline 2002 \\ \hline 11440 \\ \hline 13.442 \end{array}$	20. $\begin{array}{r} 51.96 \\ \times 0.38 \\ \hline 41568 \\ \hline 19.7448 \end{array}$	21. $\begin{array}{r} 0.346 \\ \times 69 \\ \hline 3114 \\ \hline 20760 \end{array}$	22. $\begin{array}{r} 57.5 \\ \times 0.064 \\ \hline 2300 \\ \hline 34500 \end{array}$
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D:

1. 12.9km 2. 129km 3. \$0.06 4. \$6.00, \$60.00, \$39.00, \$55.50

Worksheet 9

A:

1. 112.6 2. 233 3. 8160 4. 7 5. diamond or rhombus 6. \$92.00 7. 11:55 8. \$8.35
9. 7.345m 10. \$74.70

B:

1. 4 2. 12 3. 9 4. 8 5. 25 6. 10 7. 30 8. 24 9. 40 10. 14

C:


1. 5 2. 8.5 3. 24 4. 42 5. 88 6. 14.4 7. 9 8. 21 9. 60 10. 48.6

D:

1. 16 games 2. 20% 3. 15 pupils 4. 5 pupils 5. $\frac{1}{5}$ 6. 5 pupils 7. 980 people
8. 280 people 9. 10% 10. 140 people 11. 12 hours 12. 3 hours 13. 9 hours 14. $\frac{9}{24} = \frac{3}{8}$

Worksheet 10

A:

1. 2137 2. 131 3. 38340 4. 138 5. \$45.65 6. \$50 7. 

B:

1. 4499 2. 2816 3. 4190 4. 3624 5. $\begin{array}{r} 4365 \\ \times 78 \\ \hline \end{array}$ 6. $\begin{array}{r} 14306 \\ \times 45 \\ \hline \end{array}$ 7. $\begin{array}{r} 23105 \\ \times 352 \\ \hline \end{array}$

$\begin{array}{r} 34920 \\ \hline \end{array}$	$\begin{array}{r} 71530 \\ \hline \end{array}$	$\begin{array}{r} 46210 \\ \hline \end{array}$
$\begin{array}{r} 305550 \\ \hline \end{array}$	$\begin{array}{r} 572240 \\ \hline \end{array}$	$\begin{array}{r} 1155250 \\ \hline \end{array}$
$\begin{array}{r} 340470 \\ \hline \end{array}$	$\begin{array}{r} 643770 \\ \hline \end{array}$	$\begin{array}{r} 6931500 \\ \hline \end{array}$
		$\begin{array}{r} 8132960 \\ \hline \end{array}$

C:

1. $54 + 10 = 64$ 2. $21 + 6 = 27$ 3. $9 - 6 = 3$ 4. $25 - 24 = 1$ 5. $32 - 25 = 7$ 6. $56 + 12 = 68$
7. $8 + 14 = 22$ 8. $108 - 63 = 45$ 9. $72 - 37 = 35$ 10. $12 - 9 = 3$ 11. $17 + 6 = 23$ 12. $28 + 5 = 33$
13. $9 - 5 = 4$ 14. $40 + 16 = 56$

D:

1. $2(20 + 1) = 2 \times 21 = 42$ 2. $5(12 - 7) = 5 \times 5 = 25$ 3. $13 + 2 \times 7 = 13 + 14 = 27$
4. $41 - 3 \times 7 = 41 - 21 = 20$ 5. $9 + 3(11 - 9) = 9 + 3 \times 2 = 9 + 6 = 15$
6. $3(18 - 15) + 20 = 3 \times 3 + 20 = 9 + 20 = 29$

E:

1. $4 \times 3 - 8 = 4$ 2. $20 \div 4 + 7 = 12$ 3. $7 + 21 \div 3 = 14$ 4. $20 - 2 \times 6 = 8$ 5. $4 \times 9 \div 6 = 6$

F:

1. $\$16.50 + \$4.80 = \$21.30$ 2. $\$8 + \$5.25 + \$2.40 = \15.65

Worksheet 11

A:

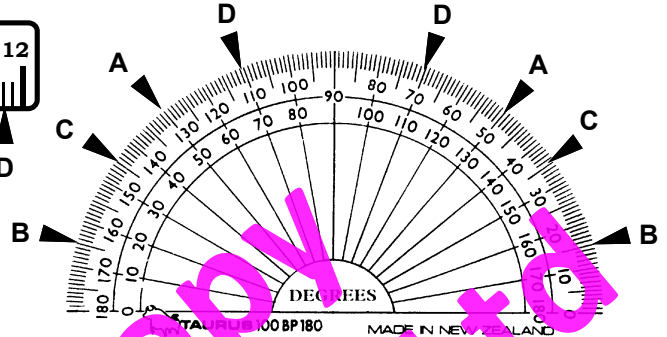
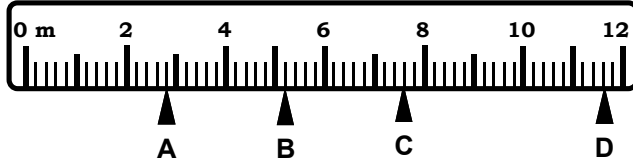
- 2
- 3.735L
- 9:45 p.m.
- 15
- octagon
- \$5.47
- $250 \div 25 = 10$
- 14, 28, 42, 56, 70
- 5.48
- $y = 4$

B:

- units are millimetres, the smallest division is 1mm, A = 6mm, B = 58mm, C = 24mm, D = 37mm
- units are centimetres, the smallest division is 0.2cm, A = 3.0cm, B = 6.6cm, C = 9.6cm, D = 1.2cm
- units are metres, the smallest division is 0.1m, A = 5.1m, B = 1.9m, C = 3.2m, D = 0.7m

C:

1.



D:

- 26cm, 30cm
- 363mm, 389mm
- 1.350g, 1.400g
- AB = 51mm
- CD = 59mm
- EF = 33mm

Worksheet 12

A:

- 28
- 9.124g
- 1727
- \$50.85
- pentagon
- \$4.94
- 44°
- 1, 2, 4, 8, 16
- 4.21
- $y = 8$

B:

- 40
- cm
- g
- 5800
- 9300
- km
- m
- 0.869
- 6500
- mm
- kL
- km

C:

- $150 + 484 = 634\text{cm}$
- $4.2 - 3.7 = 0.5\text{L}$
- $3300 - 2450 = 1350\text{g}$
- $78 + 46 = 124\text{mm}$
- $6.3 + 5.1 = 11.4\text{kL}$
- $6.375 - 4.15 = 2.225\text{g}$
- $750 - 584 = 166\text{cm}$
- $3.4 + 5.74 = 9.14\text{km}$

D:

- 11.25m
- 17.66L
- 2.4t
- \$1000
- 150 buns
- 4.5km
- 4 laps

Worksheet 13

A:

- 21
- 5325L
- 1123
- \$59.95
- octagon
- \$6.19
- 31°
- 1, 2, 3, 6, 9, 18
- 3.73
- $y = 9$

B:

- 9.0cm
- 67mm
- 41.4mm
- 18mm
- 26mm
- 50mm
- 45mm
- 16mm
- 16mm
- 171mm
- 13cm

C:

- 2200m
- 2.2km
- 11000m or 11km
- 7 laps
- 210cm

D:

- 3.41cm
- 93mm
- 37.2cm
- 108.5cm
- 465mm

Worksheet 14

A:

- 36
- 4.365t
- 9:15 p.m.
- \$113.20
- oval or ellipse
- \$27.60
- 105°
- 16, 32, 48, 64, 80
- 83.2
- $y = 9$

B:

- 24 sqs
- 23 sqs
- 14cm^2
- 18cm^2
- 3.19cm^2
- 690mm^2
- 400cm^2

C:

- 5775m^2
- 252m^2
- 21L
- 25m^2
- 20m^2
- \$2925
- 27m^2
- $9 \times \$2.15 \times 15 = \290.25

Worksheet 15

A:

1. 25 2. 5285mL 3. 1835 4. \$90.75 5. parallelogram 6. \$23.75 7. 59°
8. 1, 2, 3, 4, 6, 8, 12, 24 9. 13.34 10. $y = 3$

B:

1. 13 cubes 2. 14 cubes 3. 105cm^3 4. 360cm^3

C:

1. 480cm^3 2. 7200mm^3

D:

1. 7.2m^3 2. 9600cm^3 3. 2400cm^3 4. 729cm^3 5. 27000mm^3 6. 10cm

Worksheet 16

A:

1. 21 2. 632mm 3. 12:49 a.m. 4. \$120.45 5. hexagon 6. \$63 7. 144° 8. 30, 60, 90, 120, 150
9. 84.3 10. $y = 60$

B:

1. 28 points 2. Team A 3. 27 points 4. Team A, Team B, Team C, Team D
5. Christchurch and Wellington 6. 0725 or 7:25 a.m. 7. 1635 or 4:35 p.m. 8. 40 minutes 9. 12:20 p.m.

C:

1. 4.3km 2. houses C & D 3. 3.1km 4. 2.9km 5. houses B & D 6. houses A & E
7. $1.5 + 3.3 + 2.9 + 1.9 + 2.2 = 11.8\text{km}$

Worksheet 17

A:

1. 23 2. 6.315km 3. 1125 4. \$53.25 5. square 6. \$26.25 7. 64° 8. 1, 2, 11, 22
9. 9.51 10. $y = 60$

B:

1. 50mm 2. 7.5m 3. 30mm 4. 12m 5. 12.5km 6. 7.5km 7. 10km

C:

1. terrible 2. 4 times 3. 0900, 1200, 1600, 1700 4. Jodie was feeling very excited and happy
5. Jodie was feeling very scared and a little bit happy 6. Jodie was feeling sad and a little bit scared
7. Jodie was a little bit happy and a little bit excited

Worksheet 18

A:

1. 33 2. 0.929m 3. 3:36 p.m. 4. \$149.40 5. diamond or rhombus 6. \$28.50 7. 126°
8. 18, 36, 54, 72, 90 9. 131.8 10. $y = 90$

B:

1. 03:10 2. 7:15 3. 09:45 4. 5:20 5. 11:50
7. 10 to 7 8. quarter past 7 9. twenty-five to 12

C:

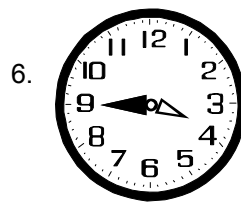
1. 0720 2. 12:07 p.m. 3. 4:45 p.m. 4. 0248 5. 1620
6. 9:45 p.m. 7. 3:43 a.m. 8. 1608 9. 1050 10. 12:52 a.m.

D:

1. 280 sec 2. 2 min 3. 7 hrs 4. $\frac{1}{2}$ day 5. 5 wks 6. 1440 7. 40 min 8. 4 episodes

E:

1. 90 km/hr 2. 450km 3. 19cm 4. 52cm 5. 6 days 6. \$76.00 7. 6 hrs



Worksheet 19

A:

1. 18 2. 830mm 3. 11:37 p.m. 4. 8 5. mean = 10 6. \$18.75 7. $10 \times 50 = 500$ 8. 4cm
9. 1.48 10. 34cm

B:

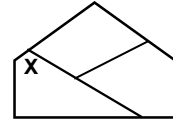
1. clockwise 2. anti-clockwise 3. angle 4. degrees 5. protractor 6. compass 7. ruler
8. right 9. straight 10. acute 11. obtuse 12. reflex 13. perpendicular 14. parallel

C:

1. $\heartsuit = \angle GKD$ or $\angle DKG$, $\spadesuit = \angle KDC$ or $\angle CDK$ 3. $\angle KBC$, $\angle CDK$, $\angle DKG$, $\angle KGH$ 2.
4. $\angle HAB$, $\angle BCD$, $\angle BKD$, $\angle KDE$, $\angle DEF$, $\angle FGK$, $\angle ABGK$

D:

1. $\angle ABC = 60^\circ$, $\angle ABD = 125^\circ$ 2. $\angle EFG = 225^\circ$



Worksheet 20

A:

1. 29 2. 2.14m 3. 16:35 4. 64 5. median = 9 6. \$36.75 7. $100 \div 10 = 10$ 8. 42mm
9. 1.96 10. 52cm^2

B:

1. Diagram C 2. Diagram D 3. Diagram B 4. Diagram A

C:

- A = 115° , \angle 's on a st line = 180° , B = 46° , vert. opp. \angle 's are equal C = 51° , \angle 's in a $\Delta = 180^\circ$,
D = 79° , \angle 's around a pt. = 360° , E = 112° , \angle 's on a st line = 180° , F = 27° , \angle 's on a st line = 180° ,
G = 126° , \angle 's in a $\Delta = 180^\circ$, H = 39° , vert. opp. \angle 's are equal I = 141° , vert. opp. \angle 's are equal
J = 59° , \angle 's in a $\Delta = 180^\circ$, K = 105° , vert. opp. \angle 's are equal L = 75° , \angle 's in a $\Delta = 180^\circ$,
M = 47° , \angle 's on a st line = 180°

D:

1. 40° 2. 18°

Worksheet 21

A:

1. 1 2. 3.225m 3. 9:45 a.m. 4. 8 5. mode = 3 6. \$108 7. $800 \div 40 = 20$ 8. 13, 26, 39, 52, 65
9. 5.56 10. $y = 6$

B:

2. AC = 50mm, $\angle ABC = 90^\circ$ 4. $27^\circ \pm 1^\circ$ 6. $36^\circ \pm 1^\circ$ 7. $36\text{mm} \pm 1$ 9. 20° 10. $6.3\text{cm} \pm 0.1$

C:

1. circumference 2. segment 3. centre 4. radius 5. sector 6. diameter

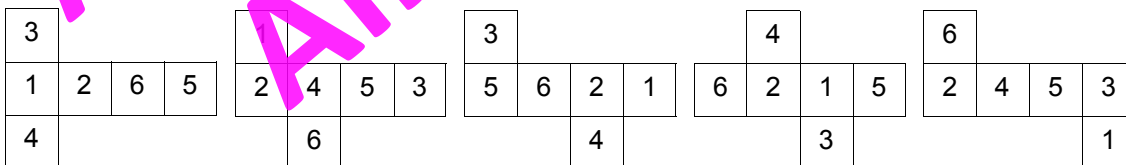
Worksheet 22

A:

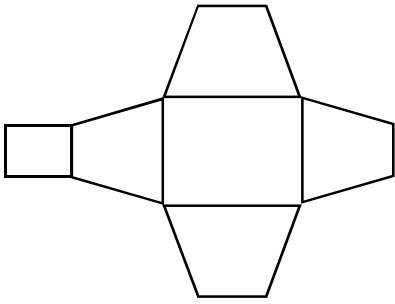
1. 1 2. 3.225m 3. 07:45 4. 42 5. range = 20 6. \$27.60 7. 8cm 8. 1, 3, 9, 27 9. 6.642
10. $y = 18$

B:

1. Possible nets are drawn below, there may be more. NOTE: Dots have been replaced by numbers.



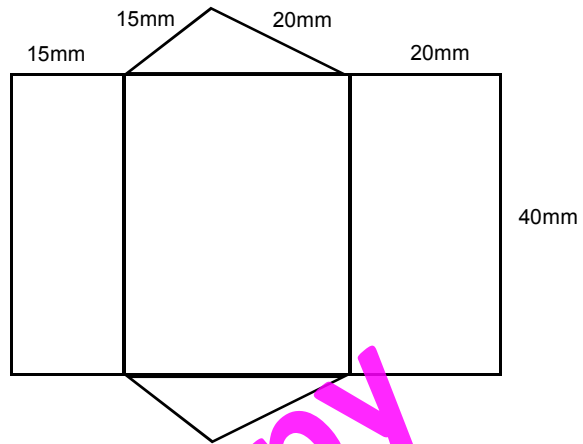
2.



C:

1. coner 2. pyramid 3. cylinder 4. cube

D:

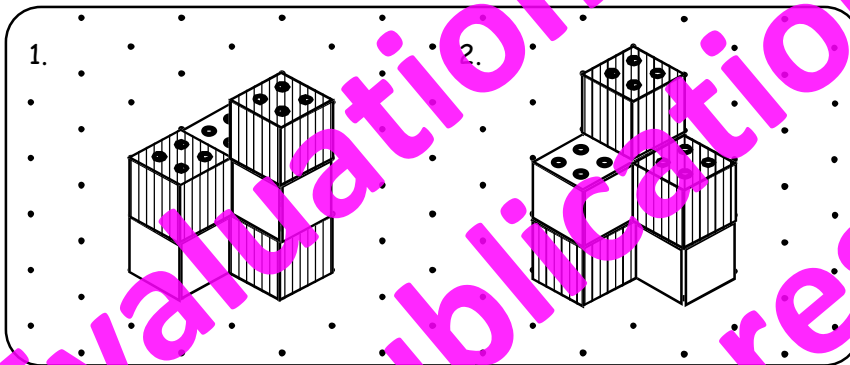


Worksheet 23

A:

1. 19 2. 4.725kg 3. 364cm 4. 0.114 5. 8:35 6. \$104 7. 364, 361, 369, 366 8. 22, 28, 34
9. 11.4 10. $y = 3$

C:



D:

Top	Front	Left side	Right side	Back

Worksheet 24

A:

1. 50 2. 4.2L 3. 09:45 4. 71 5. mean = 11.4 6. \$18 7. 8cm 8. 20, 26, 32 9. 2.55m
10. $y = 10$

B:

1. Town F 2. A2 3. C2 4. B3 5. C1 6. B3

C:

1. hexagon, pentagon 2. (2,1), (2,3), (3,4) 3. (3,0), (1,2), (4,3) 4. (0,2), (1,4), (4,5)

D:

1. NW 2. W 3. S 4. SE 5. E 6. NE 7. 24.8km, W 8. 19.2km, E 9. 19.1km, SW
10. 13.3km, N 11. 8.7km SE

E:

1. 135° 2. 315° 3. 60° 4. 260° 5. -

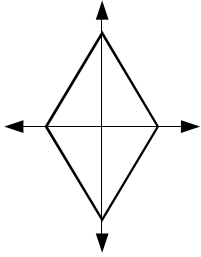
Worksheet 25

A:

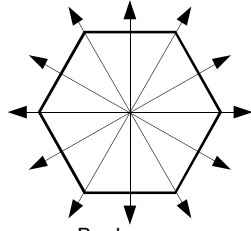
1. 17 2. 4850mL 3. 6550g 4. 0.444 5. 9:45 6. \$3.47 7. 502, 507, 506, 502, 509
 8. 21, 26, 31 9. 21.06 10. $y = 13$

B:

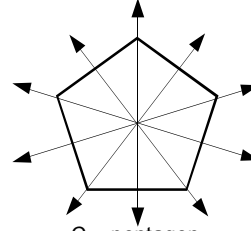
1.



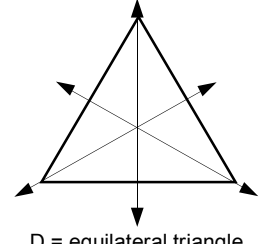
A = diamond (rhombus)



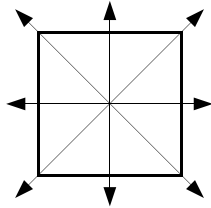
B = hexagon



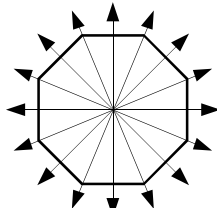
C = pentagon



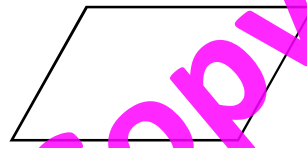
D = equilateral triangle



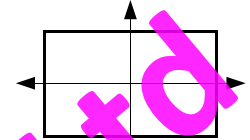
E = square



F = octagon



G = parallelogram



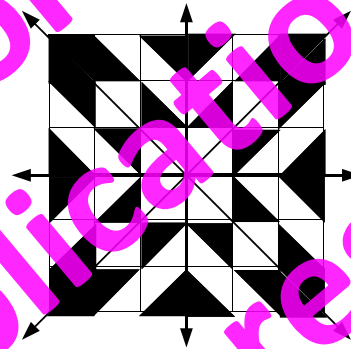
H = rectangle

2.

Shape	Reflective symmetry	Rotational symmetry
A	2	2
B	6	6
C	5	5
D	3	3
E	4	4
F	8	8
G	0	1
H	2	2

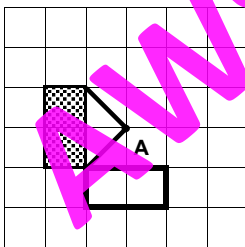
C:

2.

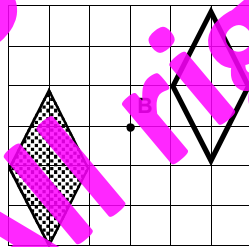


D:

1.



2.



Worksheet 26

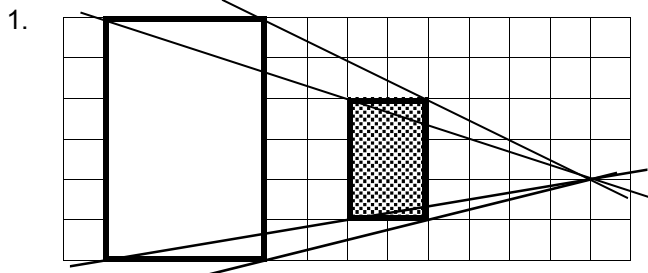
A:

1. 37 2. 9.6g 3. 09:15 4. 131 5. median = 13 6. \$54 7. 9cm 8. 20, 13, 6 9. 8.925km
10. $y = 9$

B:

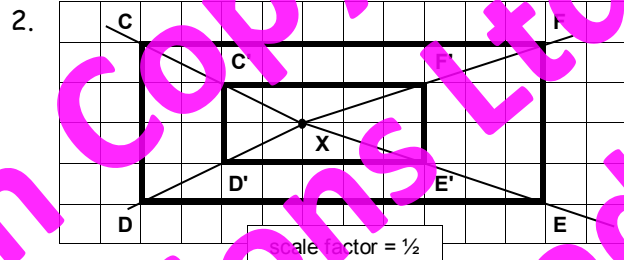
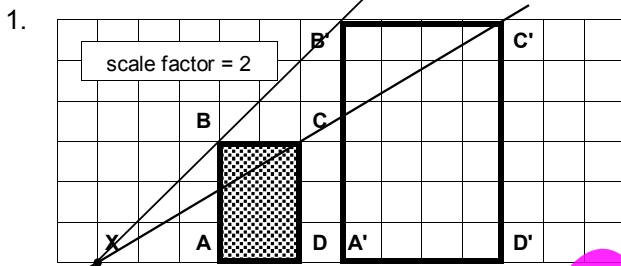
1. $sf = 2$ 2. $sf = \frac{1}{2}$

C:



2. $sf = 2$

D:



E:

1. reflected 2. enlarged 3. translated 4. rotated

Worksheet 27

A:

1. 39 2. 11 3. 1, 3, 9 4. $\frac{1}{4}$ 5. 117° 6. \$14.30 7. 8. ● ○ ○ ○

B:

1.

	4th shape	5th shape
A		
B		
C		
D		
E		

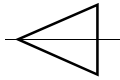
2. Sequence A: 1, 2, 3, 4, 5, 6, 7
Sequence B: 1, 2, 4, 8, 16, 32, 64
Sequence C: 3, 6, 9, 12, 15, 18, 21
Sequence D: 3, 5, 7, 9, 11, 13, 15
Sequence E: 20, 18, 16, 14, 12, 10, 8
3. A: add 1 to each new term
B: double each new term
C: add 3 to each new term
D: add 2 to each new term
E: subtract 2 from each new term
4. 10, 15 5. 128, 512 6. 30, 45 7. 19, 25 8. 6, 4

C:

1. 5, 9, add 2 2. 12, 20, add 4 3. 21, 35, add 7 4. 14, 24, add 5 5. 15, 29, add 7
6. 21, 39, add 9 7. 30, 7.5, divide by 2

Worksheet 28

A:

1. 5 2. 9 3. 1, 2, 4, 8 4. $\frac{1}{2}$ 5. 59° 6. \$7.45 7.  8. ● ● ● ○
 9. 69000 10. 44cm^2

B:


1. 22, 28, 46, 58, add 6, 64, 70, 76 2. 36, 47, 80, 102, add 11, 113, 124, 135
 3. 32, 64, 512, 2048, multiply by 2, 4096, 8192, 16384 4. 79, 72, 51, 37 subtract 7, 30, 23, 16
 5. 33, 42, 69, 87, add 9, 96, 105, 114 6. 93, 85, 61, 45, subtract 8, 37, 29, 21

C:

1. \$45 2. \$225, \$180, \$135, \$90, \$45, \$0 3. 8 months 4. \$9.50 5. \$47.50, \$57.00, \$66.50, \$76.00, \$85.50, \$95.00, 6. 7 weeks 7. 14 weeks

Worksheet 29

A:

1. 69 2. 8 3. 9, 18, 27, 36, 45 4. $\frac{7}{10}$ 5. 80° 6. \$6.36 7.  8. ● ● ● ○
 9. 3400 10. -4°C

B:

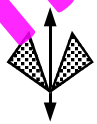
1. 15, 21, 27, 33 2. 57, 129, 177, 267 3. 2, 10, 18, 26 4. 90, 194, 258, 474 5. 12, 14, 16, 18
 6. 30, 50, 74, 110

C:

1. \$20.60, \$25.80, \$57.00, \$109.00

Worksheet 30

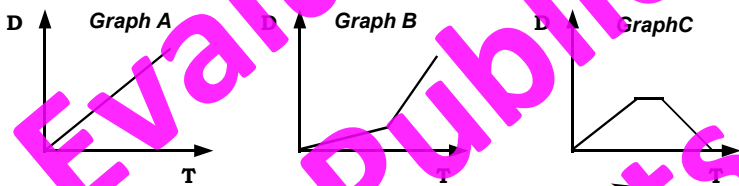
A:

1. 13 2. 49 3. 10, 20, 30, 40, 50 4. $\frac{1}{4}$ 5. 155° 6. \$3.18 7. 
 8. $100 \times 4 = 400$ 9. 800 10. -3°C

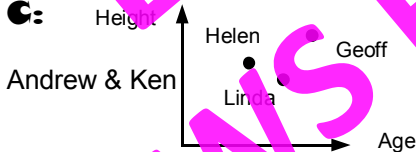
B:

1. Points B & E because that is when the temperature started to go down.
 2. The temperature went up as the heaters in the classroom were turned on.

3.

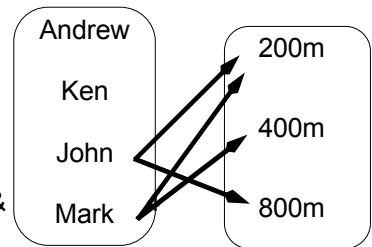


C:



D:

1.
 2. 200m & 400m 3 &

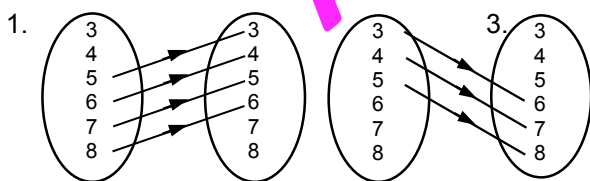


Worksheet 31

A:

1. 44 2. 169 3. 1, 2, 4, 8 4. 0.25 5. 23° 6. \$4.20 7. $350 \div 5 = 70$ 8. ○ ● ●
 9. 0.095 10. 8cm

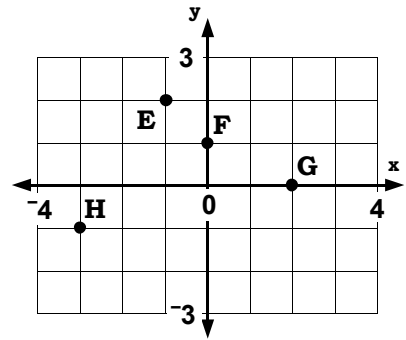
B:



2. (5, 3), (6, 4), (7, 5), (8, 6) 4. (3, 6), (4, 7), (5, 8)
 5. 'is 3rd of' 6. (3, 9), (4, 12), (5, 15), (6, 18)

- C:**
- see graph
 - number order incorrect, should be (2, 1)
 - A = (3, 3), B = (1, -3), C = (-3, 2), D = (-2, -3)
 - A possible order could be ...
 (-2, -2), (-3, 1), (3, 1), (2, -2), (-2, -2), join pts. with straight lines
 (-2, 1), (-2, 3), (-1, 3), (-1, 1), join pts. with straight lines

4.



- D:**
- \$18.00
 - John worked for 4 hours and earned \$36.00

Worksheet 32

- A:**
- 3
 - 121
 - 13, 26, 39, 52, 65
 - $\frac{1}{3}$
 - 43°
 - \$24.60
 -
 - $400 \times 2 = 800$
 - 4950g
 - 13, 23, 28

- B:**
- \$105.00, \$157.50, \$210.00
 - 8 soccer balls
 - 99cm^2
 - 81cm^2
 - 9cm
 - \$2.70
 - \$1.40
 - \$5.50, \$11.00, \$17.70
 - $C = \$6.50N + \5.00
 - \$31.00, \$63.50, \$89.50
 - 5 books

- C:**
- $C = 35A + 80S + 50B$, where C = total cost, A = number of apples bought, S = number of oranges bought, B = number of bananas bought, numbers are in cents
 - $C = 35 \times 3 + 80 \times 2 + 50 \times 4$, $C = 105 + 160 + 200$, $C = 465$ cents or $C = \$4.65$

Worksheet 33

- A:**
- 28
 - 256
 - 1, 3, 7, 21
 - 0.8
 - 78°
 - \$24
 - \$83.65
 - $\frac{1}{2}$
 - 27000
 - 4

- B:**
- 9
 - 48

- C:**
- a = 11
 - b = 42
 - c = 13
 - d = 31
 - e = 41
 - f = 12
 - g = 77
 - h = 23
 - i = 21
 - j = 8
 - k = 108
 - m = 45
 - n = 34
 - p = 10
 - q = 60
 - r = 4
 - s = 5
 - t = 6
 - u = 8
 - v = 10
 - w = 4
 - y = 8
 - z = 16
 - a = 6
 - b = 11
 - c = 8
 - d = 12

- D:**
- $4s + 7 = 67$, when s = runs scored last week
 - $4s + 7 - 7 = 67 - 7$, $4s = 60$, $s = 15$ runs scored

Worksheet 34

- A:**
- 58
 - 196
 - 18, 23, 28, 33
 - 50%
 - 29°
 - \$12.20
 - $400 \div 5 = 80$
 -
 - 0.0075
 - 12cm

- B:**
- population
 - sample
 - survey
 - representative sample
 - biased
 - random
 - questionnaire

- C:**
- Possible answers for questions 1 to 4.
- What questions relating to the 'issue/s' are you going to ask?
 - Do not ask questions that are not important to the issue.
 - Make the questions clear and concise and not too many of them.
 - How are these questions going to be answered?
Example: multi-choice, single words, short answers or long answers.
 - Have you allowed for every possible answer?
 - Do you need to give instructions as to how the questionnaire has to be filled out?
 - How are you going to organise and display the data you have collected?

Worksheet 35

A:

1. 10 2. 51.5cm 3. 5:25 p.m. 4. 27 5. 31° 6. \$14.75 7. $100 \times 10 = 1000$ 8. ○ ● ●
 9. 8600 10. circle the digit '3'

B:

1. discrete 2. continuous

3.

Number of books	Tally	F
1	### ### II	12
2	### ### ### ### II	22
3	### ### ### III	18
4	### ### I	11
		63

4. 2 books
 5. 29 pupils
 6. 63 pupils

C:


1.

Number of blocks	Tally	F
1	### I	6
2	### ### II	12
3	### ### ### III	18
4	### ### III	13
		49

2. 21, 22, 23, 24, 25, 26, 27, 28, 29
 3. 31 models
 4. 13
 5. 49 models

Worksheet 36

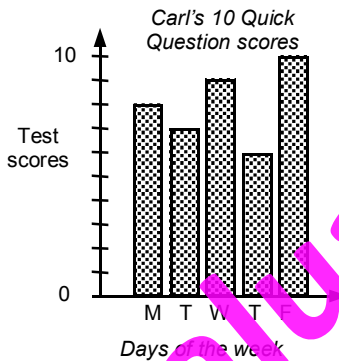
A:

1. 15 2. 5.6m 3. 33, 42, 51, 60 4. 19:05 5.  6. \$9.10 7. $800 \div 500 = 1300$
 8. ○ ○ ○ ● 9. 0.0096 10. 5cm

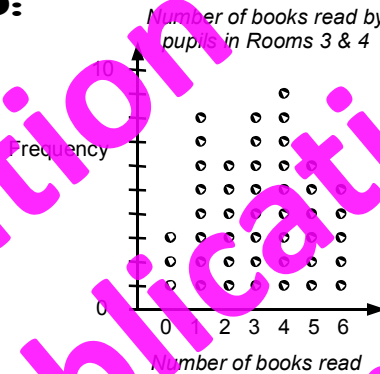
B:

1. The colour of jelly beans in one packet. 2. 8 red 3. blue 4. 34 jelly beans
 5. Money Julie earned from a part-time job. 6. \$14 7. Friday 8. \$104

C:



D:



Worksheet 37

A:

1. 46 2. 8.6km 3. 26, 33, 40, 47 4. 0.60 5.  6. $y = 6$ 7. $600 \times 2 = 1200$ 8. >
 9. 0.091 10. circle the digit 1

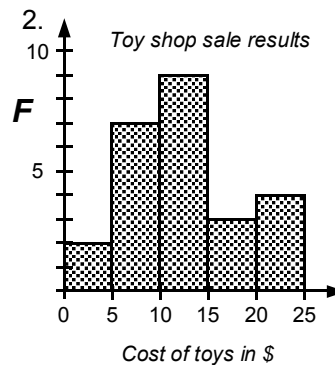
B:

1. Maths test scores for Room 10 pupils 2. 15, 16, 17, 18, 19 3. 7 pupils 4. 15 pupils 5. 31 pupils
 6. Weight of fish in a fishing competition 7. 8.00kg to 11.99kg 8. 20 fish 9. 44 fish

C:

1.

Price paid	Tally	Frequency
\$0 - \$4.99	II	2
\$5.00 - \$9.99	### II	7
\$10.00 - \$14.99	### ### I	9
\$15.00 - \$19.99	III	3
\$20.00 - \$24.99	IIII	4
		25



Worksheet 38

A:

1. 12 2. 14 3. \$19 4. 25 cm² 5. 114⁰ 6. $y = 9$ 7. 1:25 a.m. 8. $<$ 9. 1.52 10. 37mm

B:

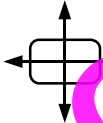
1. Test results for pupils in Room 7 2. 40 3. 13, 14, 18, 17, 14, 12, 25, 29, 23, 28, 29, 20, 24, 37, 35, 34, 32, 31, 39, 34, 30, 40, 40 4. 16 pupils 5. 23 pupils
6. Lap times for a car race recorded in seconds 7. 310 seconds 8. 349 seconds
9. fastest time = 5 min 10 sec, slowest time = 3 min 49 sec 10. 20 cars

C:

1. English test scores Maths test scores
- | | | |
|---------------------|---|---------------|
| 7, 7, 8 | 1 | 0, 7 |
| 3, 7, 8, 3, 8, 3, 5 | 2 | 8, 6, 8, 7, 7 |
| 0, 4, 0, 5, 7 | 3 | 9, 8, 2, 9, 9 |
| 5, 1, 7, 9, 9, 0 | 4 | 3, 0, 3, 8, 2 |
| | 5 | 0, 0, 0, 0 |
2. English: 49 & 17, Mathematics: 50 & 10
3. 3 pupils scored 50 out of 50 for the mathematics test, whereas no-one scored 50 in the English test. Overall, the Mathematics were better than the English scores as there were more Mathematics scores in the 40's and 30's.

Worksheet 39

A:

1. 81 2. 5.7L 3. 35, 46, 57, 68 4. 0.40 5.  6. $h = 3$ 7. $500 \times 10 = 5000$ 8. $<$
9. 67.2 10. circle the digit 4

B:

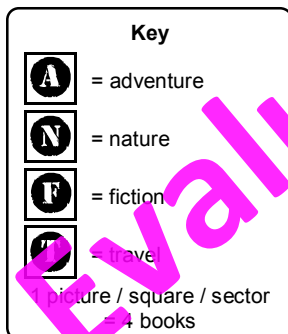
1. fries = 30 items, hamburgers = 25 items, juice = 35 items

C:

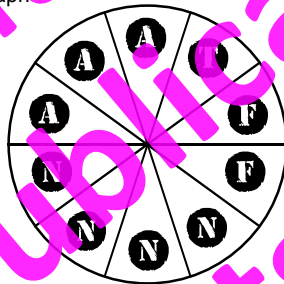
1. Pie graph: sunny = 30 days, cloudy = 24 days, raining = 6 days
Strip graph: sunny = 30 days, cloudy = 18 days, raining = 12 days 2. 60 days

D:

1. P



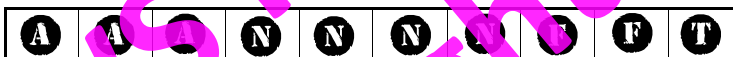
Pie graph



Pictogram




Strip graph



Worksheet 40

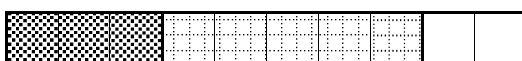
A:

1. 20 2. 900 3. \$74.25 4. 75% 5. 44° 6. \$12.75 7.  8. $y = 10$ 9. 9500m
10. -2°C

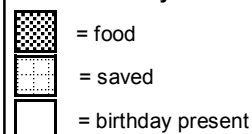
B:

1. \$14 2. 7.2kg 3. 180m 4. \$3.26 5. 17.5mm
6.

What Shelley did with her money

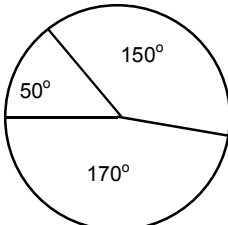


Key



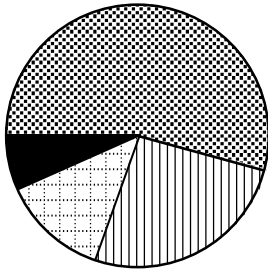
7. \$8.50
8. food = \$25.50
money saved = \$42.50
birthday present = \$17.00

C:

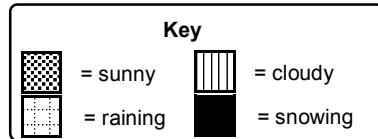
1.  2. \$300 3. \$840 4. \$1020

D:

1. $360^\circ \div 60 = 6^\circ$, 1 day = 6° 2. sector angles, sunny = 192° , cloudy = 96° , raining = 48° , snowing = 24°



Weather conditions recorded for 60 days



Worksheet 41

A:

1. 15 2. 9125mg 3. 26, 34, 42, 50 4. 0.70 5. 6. h = 9 7. $900 \div 10 = 90$
8. 19:15 9. 109.6 10. circle the digit 4

B:

1. Maximum daily temperature in Akaroa 2. 14 days 3. 8°C 4. 2nd Tuesday 5. 14°C 6. 3 days
7. 13°C 8. 3 days

C:

Set A	Set B	Set C	Set D	Set E
$9 + 14 = 23$	$8 + 18 = 26$	$7 + 30 = 37$	$58 + 6 = 64$	$7 + 17 = 24$
$23 + 8 = 31$	$24 + 8 = 32$	$38 + 6 = 44$	$8 + 45 = 53$	$45 + 9 = 54$
$21 - 9 = 12$	$33 - 7 = 26$	$32 - 14 = 18$	$30 - 11 = 19$	$36 - 11 = 25$
$42 - 8 = 34$	$57 - 9 = 48$	$53 - 13 = 40$	$72 - 23 = 49$	$53 - 25 = 28$
$5 \times 9 = 45$	$6 \times 8 = 48$	$7 \times 1 = 7$	$9 \times 8 = 72$	$9 \times 6 = 54$
$6 \times 8 = 48$	$7 \times 9 = 63$	$9 \times 9 = 81$	$6 \times 9 = 54$	$3 \times 7 = 56$
$4 \times 10 = 40$	$9 \times 6 = 54$	$5 \times 12 = 60$	$9 \times 7 = 63$	$6 \times 11 = 66$
$32 \div 4 = 8$	$42 \div 6 = 7$	$48 \div 8 = 6$	$56 \div 8 = 7$	$70 \div 7 = 10$
$35 \div 7 = 5$	$63 \div 9 = 7$	$45 \div 9 = 5$	$77 \div 7 = 11$	$72 \div 9 = 8$
$40 \div 4 = 10$	$32 \div 4 = 8$	$114 \div 3 = 38$	$84 \div 4 = 21$	$48 \div 4 = 12$
Time taken: <input type="text"/>	Time taken: <input type="text"/>	Time taken: <input type="text"/>	Time taken: <input type="text"/>	Time taken: <input type="text"/>

Worksheet 42

A:

1. 24 2. 1.21 3. \$64.20 4. 85% 5. 45° 6. \$26.30 7. 8. y = 5 9. 4.865kg
10. -3°C

B:

1. mean 2. median 3. mode 4. range

C:

1. 11 2. 10 3. 7 4. 6 5. 14.5 6. 53.5

D:

1. 12 2. 11 3. 15 4. 21 5. 7, 12, 14, 19, 22, median = 14 6. 4, 6, 8, 10, 12, 13, median = 9

E:

1. 5 2. 8, 9 3. no mode 4. 7, 9 5. 6, 8 6. 5, 9

F:

1. $15 - 3 = 12$ 2. $18 - 2 = 16$ 3. $22 - 0 = 22$ 4. $42 - 10 = 32$ 5. $\$189500 - \$142900 = \$46600$
6. $\$210500 - \$68900 = \$141600$

G:

1. 6 2. $9 - 4 = 5$ 3. 5 4. 4, 5, 5, 5, 5, 6, 7, 8, 9 5. 5
6. 4, 4, 4, 5, 5, 5, 5, 5, 5, 6, 6, 6, 7, 7, 8, 8, 8, 9 median = 5.5

Worksheet 43

A:

1. 40 2. 07:35 3. $h = 5$ 4. $\frac{65}{100}$ 5. 27° 6. \$21.60 7. $500 \div 10 = 50$ 8. ○○○●●●
 9. 0.00029 10. 15cm

B:

1. Dogs are the most popular pet choice of pets that pupils in Room 5 do have. However only 10 of the 26 pupils in Room 5 have a dog as a pet. Therefore, Sally's statement is incorrect as more pupils have pets that are not dogs.
 2. Consider Richard's scores: highest score = 64, lowest score = 18, therefore the range is 46
 mean = 33, median = 29.5, mode = 32
 Consider David's scores: highest score = 50, lowest score = 31, therefore the range is 19
 mean = 42, median = 43.5, mode = no mode
 While Richard did have the highest score, David's scores were better overall, therefore Richard's statement is incorrect.

C:

1. The strip graph shows the weather conditions for June. Each square represents 4 days. During June it was sunny for 20 days, cloudy for 12 days and raining on 8 days. Quite a good month as there was little rain.
 2. In this frisbee throwing competition, 20 people took part. The best throw was 79 metres and the worst throw was 45 metres, therefore there was a range of 34 metres. The mean throw was 60.15 metres, with a median throw of 59.5. A good competition.

Worksheet 44

A:

1. 19 2. 12 3. \$42 4. 64cm^2 5. 114° 6. $y = 8$ 7. 6:05 p.m. 8. 0.60 9. 3.76 10. 43mm

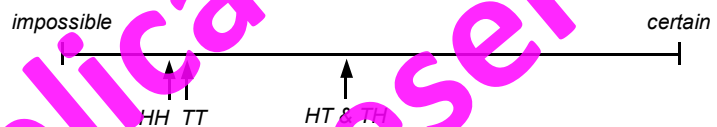
B:

1. $1 = \frac{24}{150}$, $2 = \frac{26}{150}$, $3 = \frac{30}{150}$, $4 = \frac{19}{150}$, $5 = \frac{25}{150}$, $6 = \frac{25}{150}$

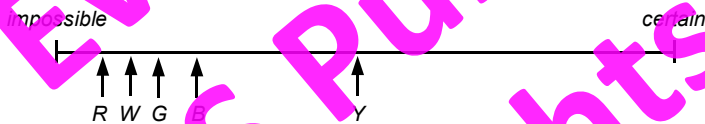
2.

Event	Tally	F
HH	### ### ###	15
HT	### ### ### III	18
TH	### ### ### II	17
TT	### ### ### ###	20

3. 70 times 4. $\frac{20}{70}$ 5. TH 6. $\frac{35}{70}$



8. 200 Lego blocks 9. red = $\frac{15}{200}$, white = $\frac{20}{200}$, blue = $\frac{40}{200}$, green = $\frac{25}{200}$, yellow = $\frac{100}{200}$ 10. white



Worksheet 45

A:

1. 36 2. 3.67m 3. 40, 53, 66, 79 4. 0.35 5. 6. $h = 6$ 7. $450 \times 3 = 1350$ 8. 07:48
 9. 63.2 10. circle the digit 3

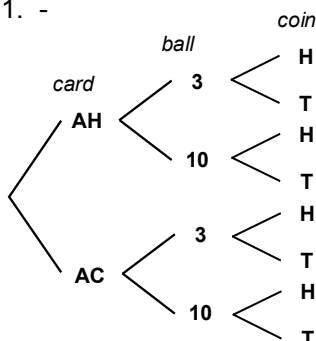
B:

Let T = toast, C = cereal, F = fruit, Mo = milo, Mi = milk, J = juice

1. (T,Mo), (T,Mi), (T,J), (C,Mo), (C,Mi), (C,J), (F,Mo), (F,Mi), (F,J) 2. 9 outcomes

C:

1. - 2. 8 outcomes



D:

1. Karen wears shorts and blouse 2. Karen wears jeans and a t-shirt 3. 9 combinations

E:

1. 2. 36 outcomes

	1	2	3	4	5	6
1	1,1	1,2	1,3	1,4	1,5	1,6
2	2,1	2,2	2,3	2,4	2,5	2,6
3	3,1	3,2	3,3	3,4	3,5	3,6
4	4,1	4,2	4,3	4,4	4,5	4,6
5	5,1	5,2	5,3	5,4	5,5	5,6
6	6,1	6,2	6,3	6,4	6,5	6,6

Worksheet 46

A:

1. 33 2. 15 3. \$76 4. 32cm 5. 107^0 6. $y = 8$ 7. 11:25 pm. 8. 0.15 9. 8.64 10. 4cm

B:

1. $\frac{1}{6}$ 2. $\frac{2}{6}$ or $\frac{1}{3}$ 3. $\frac{4}{6}$ or $\frac{2}{3}$ 4. $\frac{1}{6}$ of 180 = 30 times 5. $\frac{1}{3}$ of 240 = 80 times 6. 120 drinks
7. $\frac{50}{120}$ or $\frac{5}{12}$ 8. $\frac{15}{120}$ or $\frac{1}{8}$ 9. Flavoured milk 10. 15 Fanta drinks 11. 45 fruit juice drinks
12. 9 outcomes 13. $\frac{1}{3}$ 14. $\frac{1}{3}$ 15. $\frac{1}{9}$ 16. $\frac{3}{9}$ or $\frac{1}{3}$

C:

1. Sunday = $\frac{4}{30}$ or $\frac{2}{15}$ Thursday = $\frac{4}{30}$ or $\frac{2}{15}$ 2. $\frac{7}{30}$ 3. $\frac{8}{30}$ or $\frac{4}{15}$

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Comments																			
Worksheet	Objectives																		
23	G3 / G4																		
22	G2																		
21	G1																		
20	G1																		
19	G1																		
18	M5																		
17	M3 / M4																		
16	M3																		
15	M2																		
14	M2																		
13	M1 / M2																		
12	M1																		
11	M1																		
10	N10 / N11																		
9	N9																		
8	N8																		
7	N7 / N8																		
6	N4/N5/N6																		
5	N4 / N5																		
4	N3																		
3	N2																		
2	N1																		
1	Rev																		
Name																			

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		Comments																		
Worksheet	Objectives																			
46	S9																			
45	S9																			
44	S8																			
43	S6 / S7																			
42	S5																			
41	S4																			
40	S3																			
39	S3																			
38	S3																			
37	S3																			
36	S3																			
35	S2 / S3																			
34	S1																			
33	A5																			
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28	A1																			
27	A1																			
26	G8																			
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