Written in NZ for NZ

Help Me at HOME Series

Data Projector version of ... **Book 8 (AH8b)**

40x Curriculum Strand Worksheets

This resource supports the

NZ Mathematics Curriculum Objectives

Level 5

AWS Publications Ltd

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Click on the worksheet number you require ...

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The place a digit has in a number will affect it's value.
Example: In 57.**9**2, the 9 has a place value of $^1/_{10}$ and means 0.9.

What is the **place value** of the **BOLD** digit in each number and what does it mean?

		Place value	means
(1)	30**7**.42		*7*
(2)	5**8**107.86		
(3)	342.8**9**1		
(4)	30.**5**14		
(5)	9.26**4**		

When **rounding** a number to the **nearest 100**, look at the 10's place value number.

Example: 2**7**5 rounds **up** to 300 (5, 6, 7, 8, 9 ↑)

but 8**2**5 rounds **down** to 800 (0, 1, 2, 3, 4 ↓)

When **rounding** a number to the **nearest 1000**, look at the 100's place value number.

Example: 3**8**05 rounds **up** to 4000 (5, 6, 7, 8, 9 ↑)

but 1**3**53 rounds **down** to 1000 (0, 1, 2, 3, 4 ↓)

Round these numbers to the **nearest** ...

		10	**100**	**1000**
(6)	1837			
(7)	4079			
(8)	6325			
(9)	14308			
(10)	53754			

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

169
0.164
1.63
16.5
1680
0.0162

_____, _____, _____,

_____, _____, _____

(12) **Write** these fractions in order from smallest to largest.

$^1/_2$ $^1/_6$
$^1/_5$ $^1/_3$
$^1/_{10}$ $^1/_4$

_____, _____, _____,

_____, _____, _____

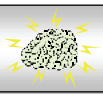
(13) **Write** these fractions in order from smallest to largest.

$^2/_3$ $^3/_5$
$^5/_6$ $^3/_4$
$^4/_5$ $^7/_{10}$

_____, _____, _____,

_____, _____, _____

Prime numbers, **multiples** and **factors** are all special types of numbers.



Use the words in the box to **fill in** the missing words in these sentences about **special numbers**.

factor, multiples, prime

(14) A _____ number can only be divided by two numbers, itself and 1.

(15) The _____ of a number are found by multiplying the number by 1, 2, 3, 4, 5, etc. and recording the answers.

(16) A _____ of a given number is a whole number that divides exactly into the given number. There is no remainder.

Working with **prime numbers**.

(17) **List** the first **10** prime numbers.

(18) **List** the prime numbers between 60 an 100.

(19) **Underline** the prime numbers in this list.

33, 35, 37, 39, 45, 47, 49, 51, 53, 57, 59

Working with **multiples**.

Example: The multiples of 5 are ... 5, 10, 15, 20, 25, 30 etc.

(20) **List** the first 10 multiples of 9.

(21) **List** the multiples of 8 between 34 and 60.

(22) **List** the multiples of 7 between 50 and 120.

Working with **factors**.

Example: 2 and 3 are factors of 6 as 2 x 3 = 6.

(23) **List** the factors of 18.

(24) **List** the factors of 40.

(25) **List** the factors of 56.

The aim of this activity sheet is to revise reading, writing & ordering numbers or decimals and place value & rounding.

Suggested EXTENSION activity:

Make up similar questions as on this worksheet to see if your child understands the various mathematical activities revised.

Example: Write 5.0392 in words. What is the place value of the 5 in 19.54? Round 345.93 to the nearest tenth. Order these numbers from smallest to largest, 15.2, 1.53, 0.159, 157, 1540.

Sign when completed: .....

The place a digit has in a number will affect it's value.
Example: In 57.**9**2, the 9 has a place value of $^1/_{10}$ and means 0.9.

What is the **place value** of the **BOLD** digit in each number and what does it mean?

		Place value	means
(1)	30**7**.42	1's	7
(2)	5**8**107.86	1000's	8000
(3)	342.8**9**1	$^1/_{100}$'s	0.09
(4)	30.**5**14	$^1/_{10}$'s	0.5
(5)	9.26**4**	$^1/_{1000}$'s	0.004

When **rounding** a number to the **nearest 100**, look at the 10's place value number.

Example: 2**7**5 rounds **up** to 300 (5, 6, 7, 8, 9 ↑)

but 8**2**5 rounds **down** to 800 (0, 1, 2, 3, 4 ↓)

When **rounding** a number to the **nearest 1000**, look at the 100's place value number.

Example: 3**8**05 rounds **up** to 4000 (5, 6, 7, 8, 9 ↑)

but 1**3**53 rounds **down** to 1000 (0, 1, 2, 3, 4 ↓)

Round these numbers to the **nearest** ...

		10	100	1000
(6)	1837	1840	1800	2000
(7)	4079	4080	4100	4000
(8)	6325	6330	6300	6000
(9)	14308	14310	14300	14000
(10)	53754	53750	53800	54000

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

169
0.164
1.63
16.5
1680
0.0162

0.0162, 0.164, 1.63, 16.5, 169, 1680

(12) **Write** these fractions in order from smallest to largest.

$^1/_2$ $^1/_6$
$^1/_5$ $^1/_3$
$^1/_{10}$ $^1/_4$

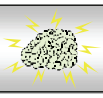
$^1/_{10}$, $^1/_6$, $^1/_5$, $^1/_4$, $^1/_3$, $^1/_2$

(13) **Write** these fractions in order from smallest to largest.

$^2/_3$ $^3/_5$
$^5/_6$ $^3/_4$
$^4/_5$ $^7/_{10}$

$^3/_5$, $^2/_3$, $^7/_{10}$, $^3/_4$, $^4/_5$, $^5/_6$

Prime numbers, **multiples** and **factors** are all special types of numbers.



Use the words in the box to **fill in** the missing words in these sentences about **special numbers**.

factor, multiples, prime

(14) A **prime** number can only be divided by two numbers, itself and 1.

(15) The **multiples** of a number are found by multiplying the number by 1, 2, 3, 4, 5, etc. and recording the answers.

(16) A **factor** of a given number is a whole number that divides exactly into the given number. There is no remainder.

Working with **prime numbers**.

(17) **List** the first **10** prime numbers.

2, 3, 5, 7, 11, 13, 17, 19, 23, 29

(18) **List** the prime numbers between 60 an 100.

61, 67, 71, 73, 79, 83, 89, 97

(19) **Underline** the prime numbers in this list.

33, 35, 37, 39, 45, 47, 49, 51, 53, 57, 59

Working with **multiples**.

Example: The multiples of 5 are … 5, 10, 15, 20, 25, 30 etc.

(20) **List** the first 10 multiples of 9.

9, 18, 27, 36, 45, 54, 63, 72, 81, 90

(21) **List** the multiples of 8 between 34 and 60.

40, 48, 56

(22) **List** the multiples of 7 between 50 and 120.

56, 63, 70, 77, 84, 91, 98, 105, 112, 119

Working with **factors**.

Example: 2 and 3 are factors of 6 as 2 x 3 = 6.

(23) **List** the factors of 18.

1, 2, 3, 6, 9, 18

(24) **List** the factors of 40.

1, 2, 4, 5, 8, 10, 20, 40

(25) **List** the factors of 56.

1, 2, 4, 7, 8, 14, 28, 56

The aim of this activity sheet is to revise reading, writing & ordering numbers or decimals and place value & rounding.

Suggested EXTENSION activity:

Make up similar questions as on this worksheet to see if your child understands the various mathematical activities revised.

Example: Write 5.0392 in words. What is the place value of the 5 in 19.54? Round 345.93 to the nearest tenth. Order these numbers from smallest to largest, 15.2, 1.53, 0.159, 157, 1540.

Sign when completed: .....

There is more than one way to work out an answer.
Here are some examples.

Groupings of 10, 100 or 1000

Adding 25 + 7 + 80 is the same as 100 + 12 = 112

Round to make '10' or a 'multiple of 10'

Add 65 + 9 (add 5 to 65 , subtract 5 from 9)

Answer: 65 + 9 = 70 + 4 = 74

Adding or subtracting 100's, 10's and 1's

Add 732 + 456 (100's) 700 + 400 (10's) 30 + 50 (1's) 2 + 6

Answer: 1100 + 80 + 8 = 1188

Splitting numbers to make '10'

Work out 485 - 8 = ● (485 = 480 + 5)

480 - 8 = 472, Answer: 472 + 5 = 477

Equal additions to make 'tidy' numbers

Subtract 181 - 93 (add 7 to both numbers)

Answer: 181 - 93 = 188 - 100 = 88

Don't subtract ... add

108 - 79 = ● is the same as 79 + ● = 108

*Use **'tidy'** numbers to work this out.*

*(79 + **1** = 80, 80 + **20** = 100, 100 + **8** = 108) ⇨ 1 + 20 + 8 = **29***

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(1) 299 - 74 = _____

(2) 522 + 89 = _____

(3) 603 - 75 = _____

(4) 924 - 679 = _____

(5) 198 + 126 = _____

(6) 145 + 261 + 619 = _____

(7) 4396 - 2154 = _____

(8) 85 + 187 = _____

(9) 54 + 98 + 52 = _____

(10) 1524 - 989 = _____

(11) 269 + 1531 = _____

(12) 605 + 391 + 149 = _____

(13) 2704 - 829 = _____

(14) 385 + 457 = _____

(15) 519 - 374 = _____

(16) 1332 + 146 = _____

(17) 853 - 95 = _____

(18) 500 - 245 = _____

(19) 132 + 826 = _____

(20) 375 + 601 + 439 = _____

Adding using columns

Add 34 + 1423 + 9 + 135 + 3482 = ?

Rewrite the numbers in a column, lining up numerals with the same place value.
Add each column of numbers, starting with the right hand column.

```
  1 1 2
    34
  1423
     9
   135
+ 3482
------
  5083
```

Rewrite these numbers in columns, then **add**.

(21) 9 + 682 + 87 + 3456

(22) 394 + 5209 + 8 + 76 + 542 + 95

(21)

_____
_____
_____
\+ _____
_____
_____

(22)

_____
_____
_____
_____
_____
\+ _____
_____
_____

Subtracting using columns & renaming

Subtract 653 - 389 = ?

```
  4 13          5 14 13          5 14 13
  6 5 3         6 5 3            6 5 3
- 3 8 9       - 3 8 9          - 3 8 9
-------      -------          -------
    4            6 4            2 6 4
```

... 53 is **renamed** as 4 & 13 ... (13 - 9 = 4).
... 64 is **renamed** as 5 & 14 ... (14 - 8 = 6).
... finally ... 5 - 3 = 2

Rewrite these numbers in columns, then **subtract**.

(23) 4758 - 1985

_____
\- _____
_____

(24) 6243 - 4679

_____
\- _____
_____

(25) 8000 - 2785

_____
\- _____
_____

(26) 12000 - 5241

_____
\- _____
_____

The aim of this activity sheet is to look at different strategies that could be used to work out addition or subtraction problems.

Suggested EXTENSION activity:

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: .....

There is more than one way to work out an answer.
Here are some examples.

Groupings of 10, 100 or 1000

Adding 25 + 7 + 80 is the same as 100 + 12 = 112

Round to make '10' or a 'multiple of 10'

Add 65 + 9 (add 5 to 65 , subtract 5 from 9)

Answer: 65 + 9 = 70 + 4 = 74

Adding or subtracting 100's, 10's and 1's

Add 732 + 456 (100's) 700 + 400 (10's) 30 + 50 (1's) 2 + 6

Answer: 1100 + 80 + 8 = 1188

Splitting numbers to make '10'

Work out 485 - 8 = ● (485 = 480 + 5)

480 - 8 = 472, Answer: 472 + 5 = 477

Equal additions to make 'tidy' numbers

Subtract 181 - 93 (add 7 to both numbers)

Answer: 181 - 93 = 188 - 100 = 88

Don't subtract ... add

108 - 79 = ● is the same as 79 + ● = 108

*Use **'tidy'** numbers to work this out.*

*(79 + **1** = 80, 80 + **20** = 100, 100 + **8** = 108) ⇨ 1 + 20 + 8 = **29***

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(1)	299 - 74 =	225
(2)	522 + 89 =	611
(3)	603 - 75 =	528
(4)	924 - 679 =	245
(5)	198 + 126 =	324
(6)	145 + 261 + 619 =	1025
(7)	4396 - 2154 =	2242
(8)	85 + 187 =	272
(9)	54 + 98 + 52 =	204
(10)	1524 - 989 =	535
(11)	269 + 1531 =	1800
(12)	605 + 391 + 149 =	1145
(13)	2704 - 829 =	1875
(14)	385 + 457 =	842
(15)	519 - 374 =	145
(16)	1332 + 146 =	1478
(17)	853 - 95 =	758
(18)	500 - 245 =	255
(19)	132 + 826 =	958
(20)	375 + 601 + 439 =	1415

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Adding using columns

Add 34 + 1423 + 9 + 135 + 3482 = ?

Rewrite the numbers in a column, lining up numerals with the same place value.
Add each column of numbers, starting with the right hand column.

```
  1 1 2
    34
  1423
     9
   135
+ 3482
------
  5083
```

Rewrite these numbers in columns, then **add**.

(21) 9 + 682 + 87 + 3456

(22) 394 + 5209 + 8 + 76 + 542 + 95

(21)

```
    9
  682
   87
+ 3456
------
 4234
```

(22)

```
  394
 5209
    8
   76
  542
+  92
------
 6324
```

Subtracting using columns & renaming

Subtract 653 - 389 = ?

```
  4 13          5 14 13          5 14 13
  6 5 3         6 5 3            6 5 3
- 3 8 9   ⇨   - 3 8 9     ⇨    - 3 8 9
-------       -------          -------
    4             6 4              2 6 4
```

... 53 is **renamed** as 4 & 13 ... (13 - 9 = 4).
... 64 is **renamed** as 5 & 14 ... (14 - 8 = 6).
... finally ... 5 - 3 = 2

Rewrite these numbers in columns, then **subtract**.

(23) 4758 - 1985

```
 4758
- 1985
------
 2773
```

(24) 6243 - 4679

```
 6243
- 4679
------
 1564
```

(25) 8000 - 2785

```
 8000
- 2785
------
 5215
```

(26) 12000 - 5241

```
 12000
- 5241
------
 6759
```

The aim of this activity sheet is to look at different strategies that could be used to work out addition or subtraction problems.

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Sign when completed: .....

When working with large numbers, there is more than one way to work out an answer.

Here are some **using place value**

Working out 259 x 8 is the same as ...

(200 x 8) + (50 x 8) + (9 x 8) = 1600 + 400 + 72 = 2072

Rounding to use 'tidy' numbers

Working out 298 x 5 is the same as ...

(300 x 5) - (2 x 5) = 1500 - 10 = 1490

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(1) 597 x 6 = _____

(2) 790 x 7 = _____

(3) 607 x 8 = _____

(4) 324 x 9 = _____

(5) 741 x 7 = _____

Here are some division strategies.

Using known multiples of 10

Working out 95 ÷ 5 is the same as ...

(50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

Rounding up or down to use 'tidy' numbers

Working out 195 ÷ 5 is the same as ...

(200 ÷ 5) - (5 ÷ 5) = 40 - 1 = 39

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(6) 108 ÷ 6 = _____

(7) 171 ÷ 9 = _____

(8) 1788 ÷ 6 = _____

(9) 119 ÷ 7 = _____

(10) 4024 ÷ 8 = _____

Using written working forms

To work out 95 x 8, rewrite as ...

Firstly, 8 x 5 = 40

(Note: small 4 represents 40)

then, 90 x 8 = 720 plus 40 = 760

$^{4}95$ x 8 = 0

95 x 8 → 760

(11) 267 x 3 = _____

(12) 598 x 4 = _____

(13) 876 x 5 = _____

(14) 926 x 8 = _____

(15) 491 x 64 = _____

Using written working forms, some with & without remainders. To work out 85 ÷ 6, rewrite as ...

Firstly, 8 ÷ 6 = 1 with a remainder of 2

then 25 ÷ 6 = 4 with a remainder of 1

$$6\overline{)85}\quad 1 \qquad 6\overline{)85}\quad 14\ r1$$

(16) $7\overline{)168}$

(17) $8\overline{)520}$

(18) $7\overline{)943}$

(19) $8\overline{)1375}$

Show your working as you work out this problem.

working space

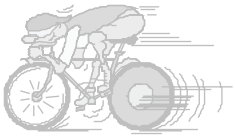
(20) At a large high school, 5 computer rooms are going to be set up.

Each room will have 23 computers.

If the cost of one computer is $1365, how much will it cost to set up the computer rooms?

(21) The total cost of airfares for five adult fares came to $1890. How much did each passenger pay?

(22) The total cost of seven new bicycles was $4165. How much did each bicycle cost?



(23) Nine new computers cost $21150. If they are all the same, what is the cost of one computer?

The aim of this activity sheet is to look at different strategies that could be used to work out multiplication problems.

Suggested EXTENSION activity:

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

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Sign when completed: .....

When working with large numbers, there is more than one way to work out an answer.

Here are some **using place value**

Working out 259 x 8 is the same as ...
(200 x 8) + (50 x 8) + (9 x 8) = 1600 + 400 + 72 = 2072

Rounding to use 'tidy' numbers

Working out 298 x 5 is the same as ...
(300 x 5) - (2 x 5) = 1500 - 10 = 1490

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(1) 597 x 6 = (500x6)+(90x6)+(7x6)=3000+540+42= **3582**

(2) 790 x 7 = (700x7)+(90x7)+(0x7)=4900+630+0= **5530**

(3) 607 x 8 = (600x8)+(0x8)+(7x8)=4800+0+56= **4856**

(4) 324 x 9 = (300x9)+(20x9)+(4x9)=2700+180+36= **2916**

(5) 741 x 7 = (700x7)+(40x7)+(1x7)=4900+280+7= **5187**

Here are some division strategies.

Using known multiples of 10

Working out 95 ÷ 5 is the same as ...
(50 ÷ 5) + (45 ÷ 5) = 10 + 9 = 19

Rounding up or down to use 'tidy' numbers

Working out 195 ÷ 5 is the same as ...
(200 ÷ 5) - (5 ÷ 5) = 40 - 1 = 39

Work out the problems using any strategy you like, but be prepared to talk about which strategy you used.

(6) 108 ÷ 6 = (60÷6) + (48÷6) = 10 + 8 = **18**

(7) 171 ÷ 9 = (90÷9) + (81÷9) = 10 + 9 = **19**

(8) 1788 ÷ 6 = (1800÷6) - (12÷6) = 300 - 2 = **18**

(9) 119 ÷ 7 = (70÷7) + (49÷7) = 10 + 7 = **17**

(10) 4024 ÷ 8 = (4000÷8) + (24÷8) = 500 + 3 = **503**

Using written working forms

To work out 95 x 8, rewrite as ...

Firstly, 8 x 5 = 40

(Note: small 4 represents 40)

then, 90 x 8 = 720 plus 40 = 760

$^{4}95$ x 8 = 0

95 x 8 = 760

(11)

267
x 3
801

(12)

598
x 4
2392

(13)

876
x 5
4380

(14)

926
x 8
7408

(15)

491
x 64
1964
29460
31424

Using written working forms, some with & without remainders. To work out 85 ÷ 6, rewrite as ...

Firstly, 8 ÷ 6 = 1 with a remainder of 2

then 25 ÷ 6 = 4 with a remainder of 1

$$6\overline{)85}\quad 1\ 4\ \text{r}\ 1$$

(16) $7\overline{)168} = 24$

(17) $8\overline{)520} = 65$

(18) $7\overline{)943} = 134\ \text{r}5$

(19) $8\overline{)1375} = 171\ \text{r}7$

Show your working as you work out this problem.

(20) At a large high school, 5 computer rooms are going to be set up.

Each room will have 23 computers.

If the cost of one computer is $1365, how much will it cost to set up the computer rooms?

working space

23 x 5 = 115

1365
x 115
6825
13650
136500
$156975

(21) The total cost of airfares for five adult fares came to $1890. How much did each passenger pay?

$378

(22) The total cost of seven new bicycles was $4165. How much did each bicycle cost?

$595

(23) Nine new computers cost $21150. If they are all the same, what is the cost of one computer?

$2350

The aim of this activity sheet is to look at different strategies that could be used to work out multiplication problems.

Suggested EXTENSION activity:

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Sign when completed: .....

Adding decimal numbers using columns

Add 0.23 + 14 + 9.4 + 135.3 + 3.485 = ?

Rewrite the numbers in a column, lining up the decimal points.

Add each column of numbers, starting with the right hand column.

```
  2 1  1
   0.23
  14.
   9.4
 135.3
+ 3.485
-------
 162.415
```

Rewrite these decimals in columns, then **add**.

(1) 5.7 + 0.09 + 457 + 68.2

(2) 1.3 + 140.9 + 27 + 51.231 + 2003

(1)

(2)

Subtracting decimals using columns & renaming

Subtract 46.3 - 2.58 = ? (Line up the decimal points)

```
  2 10                5 12 10              5 12 10
  46.30               46.30                46.30
- 2.58      ⇨       - 2.58       ⇨       - 2.58
-------             -------              -------
      2                  .72                43.72
```

... 30 is **renamed** as 20 & 10 ... (10 - 8 = 2).
... 62 is **renamed** as 50 & 12 ... (12 - 5 = 7).
... finally ... 5 - 2 = 3 and 4 - 0 = 4

Rewrite these decimals in columns, then **subtract**.

(3) 217.9 - 149.5

(4) 5.326 - 1.049

(5) 14.56 - 9.348

(6) 42.17 - 9.673

(3)

(4)

(5)

(6)

Using written working forms with decimals

To work out 14.5 x 2.8, use the same strategy as if working with whole numbers.

Rewrite as ...

```
  14.5
x 2.8
------
 1160
 2900
------
 40.60
```

Where does the decimal point go in the answer?

By counting the digits to the right of the decimal point in the question, the position of the decimal point in the answer can be found.

Example: 2 digits to the right of the decimal points, so 2 in from the right.

Rewrite these decimals in written form layout, then **multiply**.

(7) 4.78 × 0.9

(8) 2.345 × 0.07

(7)

(8)

Using written working forms with decimals

To work out 2.84 ÷ 0.4, move the decimal point in 0.4 until you are dividing by a whole number.
Then move the decimal point the same number of places in the number being divided.

Example: $0.4\overline{)2.84}$ ⟶ $4\overline{)28.4}$

Work out the answer using the same strategies as if working with whole numbers.

Rewrite these decimals in written form layout, then **divide**.

(9) 14.7 ÷ 0.6

(10) 4.788 ÷ 0.07

Adding zeros and rounding

With some division problems there appears to be no end.
By adding extra zeros, you can keep dividing.

Example: 18.7 ÷ 7 = ?

Round this answer to 2 decimal places.

$$7\overline{)18.7000} = 02.6714 \text{ etc.}$$

Answer: 2.6714 rounded to 2 d.p. is 2.67

Rewrite these decimals in written form layout, add 3 zeros, then **divide**.

(11) 13.7 ÷ 0.8

(12) 2.345 ÷ 0.09

working space

(13) A school is charged $0.015 per copy, for photocopying A4 sized paper.
Work out the cost of printing 26584 copies.

(14) Nine C.D.'s cost $143.55.
If they all cost the same price, what is the cost of one C.D?

1 C.D. costs = $

The aim of this activity sheet is to use addition and subtraction strategies to workout problems involving decimals / money. Remember to line up decimal points.

Suggested EXTENSION activity:
Make up similar questions as on this worksheet, that involve adding and subtracting decimals. Ask your child to work out an estimated answer before they do the calculation.

Example: If I spend $5.25, $1.90, $3.25 and $9.90, how much have I spent and what change do I get from $30.00?

Answer: Estimated answer … 5 + 2 + 3 + 10 = 20

Sign when completed: .....

Adding decimal numbers using columns

Add 0.23 + 14 + 9.4 + 135.3 + 3.485 = ?

Rewrite the numbers in a column, lining up the decimal points.

Add each column of numbers, starting with the right hand column.

```
  2 1  1
   0.23
  14.
   9.4
 135.3
+ 3.485
-------
 162.415
```

Rewrite these decimals in columns, then **add**.

(1) 5.7 + 0.09 + 457 + 68.2

5.70	
0.09	
457.00	
+ 68.20	
530.99	

(2) 1.3 + 140.9 + 27 + 51.231 + 2003

1.300	
140.900	
27.000	
51.231	
+ 2003.000	
2223.431	

Subtracting decimals using columns & renaming

Subtract 46.3 - 2.58 = ? (Line up the decimal points)

```
  2 10                5 12 10                5 12 10
  46.3Ø               4Ø.3Ø                  4Ø.3Ø
- 2.58      ⇨       - 2.58      ⇨          - 2.58
-------             -------                -------
   2                   .72                  43.72
```

... 30 is **renamed** as 20 & 10 ... (10 - 8 = 2).
... 62 is **renamed** as 50 & 12 ... (12 - 5 = 7).
... finally ... 5 - 2 = 3 and 4 - 0 = 4

Rewrite these decimals in columns, then **subtract**.

(3) 217.9 - 149.5

217.9	
- 149.5	
68.4	

(4) 5.326 - 1.049

5.326	
- 1.049	
4.277	

(5) 14.56 - 9.348

14.560	
- 9.348	
5.212	

(6) 42.17 - 9.673

42.170	
- 9.673	
32.497	

Using written working forms with decimals

To work out 14.5 x 2.8, use the same strategy as if working with whole numbers.

Rewrite as ...

```
  14.5
x 2.8
------
 1160
 2900
------
 40.60
```

Where does the decimal point go in the answer?

By counting the digits to the right of the decimal point in the question, the position of the decimal point in the answer can be found.

Example: 2 digits to the right of the decimal points, so 2 in from the right.

Rewrite these decimals in written form layout, then **multiply**.

(7) 4.78 × 0.9

4.78	
× 0.9	
4.302	

(8) 2.345 × 0.07

2.345	
× 0.07	
0.16415	

Using written working forms with decimals

To work out 2.84 ÷ 0.4, move the decimal point in 0.4 until you are dividing by a whole number.
Then move the decimal point the same number of places in the number being divided.

Example: $0.4\overline{)2.84}$ → $4\overline{)28.4}$

Work out the answer using the same strategies as if working with whole numbers.

Rewrite these decimals in written form layout, then **divide**.

$$6\overline{)147.0} = 24.5$$

(9) 14.7 ÷ 0.6

$$7\overline{)478.8} = 68.4$$

(10) 4.788 ÷ 0.07

Adding zeros and rounding

With some division problems there appears to be no end.
By adding extra zeros, you can keep dividing.

Example: 18.7 ÷ 7 = ?

Round this answer to 2 decimal places.

$$7\overline{)18.7000} = 02.6714 \text{ etc.}$$

Answer: 2.6714 rounded to 2 d.p. is 2.67

Rewrite these decimals in written form layout, add 3 zeros, then **divide**.

$$8\overline{)137.000} = 17.125$$

(11) 13.7 ÷ 0.8

$$9\overline{)234.5000} = 26.0555$$

(12) 2.345 ÷ 0.09

(13) A school is charged $0.015 per copy, for photocopying A4 sized paper.
Work out the cost of printing 26584 copies.

26584 × 0.015 = $398.76

(14) Nine C.D.'s cost $143.55.
If they all cost the same price, what is the cost of one C.D?

$$9\overline{)143.55} = 15.95$$

1 C.D. costs = $15.95

The aim of this activity sheet is to use addition and subtraction strategies to workout problems involving decimals / money. Remember to line up decimal points.

Suggested EXTENSION activity:
Make up similar questions as on this worksheet, that involve adding and subtracting decimals. Ask your child to work out an estimated answer before they do the calculation.

Example: If I spend $5.25, $1.90, $3.25 and $9.90, how much have I spent and what change do I get from $30.00?

Answer: Estimated answer … 5 + 2 + 3 + 10 = 20

Sign when completed: .....

When a number is multiplied by itself, such as .... 1 x 1, 2 x 2, 3 x 3, 4 x 4 etc. the answers that are created are known as **squares**.
These can be written as 1^2, 2^2, 3^2, 4^2, etc.
We say , 4^2 as *'four squared'*, which means .. 4 x 4 = 16.

Work out the **squares** of these numbers.

(1) 8^2 = _____ **(2)** 7^2 = _____

(3) 5^2 = _____ **(4)** 11^2 = _____

(5) How many concrete tiles are needed to tile a square court yard if one side is 13 tiles long? _____

The opposite of squaring a number is to find the **square root**. The symbol for square root is √.
Example: If 3 x 3 = 9, then √9 = 3
(i.e. two numbers the same that multiply to 9)

Work out the **square root** of these numbers.

(6) √81 = _____ **(7)** √36 = _____

(8) √144 = _____ **(9)** √400 = _____

(10) A square court yard has 49 one metre square tiles. How long is each side? _____

Other powers.
If 9 x 9 = 9^2 = 81, then 9 x 9 x 9 = 9^3 = 729
Example: Find 5^4 Answer: 5 x 5 x 5 x 5 = 625

Work out these **powers**.

(11) 2^6 _____

(12) 3^4 _____

(13) 7^3 _____

When working out answers with questions involving a mixture of operations, the order in which they are done will affect the answer. The letters **BODMAS** or **BEDMAS** will help you to remember the order.

B = brackets
O = of (**E** = exponents)
D = division
M = multiplication
A = addition
S = subtraction

Examples:

6 × 8 + 12
= 48 + 12
= 60

13 + 4 × 3
= 13 + 12
= 25

36 ÷ 4 - 7
= 9 - 7
= 2

10 + 27 ÷ 9 - 7
= 10 + 3 - 7
= 6

Use order of operation rules to **work out** the following problems.

(14) 9 × 7 + 22 = _____

(15) 6 × 8 - 29 = _____

(16) 75 ÷ 5 - 8 = _____

(17) 24 + 56 ÷ 7 = _____

(18) 62 – 6 × 4 + 13 = _____

(19) 74 + 36 ÷ 9 - 6 = _____

(20) 9 × 8 - 48 ÷ 4 = _____

(21) 49 ÷ 7 + 3 × 6 = _____

Problems involving brackets.
Example: 4(3 + 4) means 4 × (3 + 4) = 4 × 7 = 28
5(29 – 4 × 6) = 5(29 – 24) = 5 × 5 = 25

Use **order of operation** rules to work out the answers for these questions involving brackets.

(22) 3(4 × 5 + 8) = _____

(23) 6(33 – 3 × 1) = _____

(24) 2(5 × 8 – 12) = _____

Problems involving brackets and exponents.
Example: 3^2 + 5 × 4 means 3 × 3 + 5 × 4 = 9 + 20 = 29
5(4^2 – 2 × 6) = 5(16 – 12) = 5 × 4 = 20

Use **order of operation** rules to work out the answers for these questions involving brackets and exponents.

(25) 2(4 × 3 + 8) = _____

(26) 5(30 – 3 × 6) = _____

(27) 6(36 ÷ 9 + 4^2) = _____

Add +, –, × or ÷ to make each statement true. Remember ....

BEDMAS

(28) 6 ____ 6 ____ 9 = 45

(29) 35 ____ 5 ____ 8 = 15

(30) 8 ____ 6 ____ 27 ____ 9 = 51

(31) Aimee bought 7 books worth $9.00 each and 6 pens worth $3.50 each. How much did she spend altogether?

_____

The aim of this activity sheet is to understand square / square roots and order of operations when calculating answers involving the four operations and exponents.

Suggested EXTENSION activity:
Make up similar number and word questions as on this worksheet that require finding squares or square roots and questions using the order of operation rules.

Example: If a square tiled area has sides of 15 tiles, how many tiles are in this area?

If I buy five C.D.'s at $15.00 each and a book worth $12.50, how much have I spent?

Sign when completed: .....

When a number is multiplied by itself, such as .... 1 x 1, 2 x 2, 3 x 3, 4 x 4 etc. the answers that are created are known as **squares**.
These can be written as 1^2, 2^2, 3^2, 4^2, etc.
We say , 4^2 as *'four squared'*, which means .. 4 x 4 = 16.

Work out the **squares** of these numbers.

(1) $8^2 = 64$ **(2)** $7^2 = 49$

(3) $5^2 = 25$ **(4)** $11^2 = 121$

(5) How many concrete tiles are needed to tile a square court yard if one side is 13 tiles long? 169

The opposite of squaring a number is to find the **square root**. The symbol for square root is √.
Example: If 3 x 3 = 9, then √9 = 3
(i.e. two numbers the same that multiply to 9)

Work out the **square root** of these numbers.

(6) √81 = 9 **(7)** √36 = 6

(8) √144 = 12 **(9)** √400 = 20

(10) A square court yard has 49 one metre square tiles. How long is each side? 7m

Other powers.
If 9 x 9 = 9^2 = 81, then 9 x 9 x 9 = 9^3 = 729
Example: Find 5^4 Answer: 5 x 5 x 5 x 5 = 625

Work out these **powers**.

(11) 2^6 2 x 2 x 2 x 2 x 2 x 2 = 64

(12) 3^4 3 x 3 x 3 x 3 = 81

(13) 7^3 7 x 7 x 7 = 343

When working out answers with questions involving a mixture of operations, the order in which they are done will affect the answer. The letters **BODMAS** or **BEDMAS** will help you to remember the order.

B = brackets
O = of (**E** = exponents)
D = division
M = multiplication
A = addition
S = subtraction

Examples:

6 × 8 + 12
= 48 + 12
= 60

13 + 4 × 3
= 13 + 12
= 25

36 ÷ 4 - 7
= 9 - 7
= 2

10 + 27 ÷ 9 - 7
= 10 + 3 - 7
= 6

Use order of operation rules to **work out** the following problems.

(14) 9 × 7 + 22 = 63 + 22 = 85

(15) 6 × 8 - 29 = 48 - 29 = 19

(16) 75 ÷ 5 - 8 = 15 - 8 = 7

(17) 24 + 56 ÷ 7 = **24 + 8 = 32**

(18) 62 – 6 × 4 + 13 = **62 - 24 + 13 = 51**

(19) 74 + 36 ÷ 9 - 6 = **74 + 4 - 6 = 72**

(20) 9 × 8 - 48 ÷ 4 = **72 - 12 = 60**

(21) 49 ÷ 7 + 3 × 6 = **7 + 18 = 25**

Problems involving brackets.
Example: 4(3 + 4) means 4 × (3 + 4) = 4 × 7 = 28
5(29 – 4 × 6) = 5(29 – 24) = 5 × 5 = 25

Use **order of operation** rules to work out the answers for these questions involving brackets.

(22) 3(4 × 5 + 8) = **3(20 + 8) = 3 × 28 = 84**

(23) 6(33 – 3 × 1) = **6(33 - 3) = 6 × 30 = 180**

(24) 2(5 × 8 – 12) = **2(40 - 12) = 2 × 28 = 56**

Problems involving brackets and exponents.
Example: $3^2 + 5 \times 4$ means $3 \times 3 + 5 \times 4 = 9 + 20 = 29$
$5(4^2 - 2 \times 6) = 5(16 - 12) = 5 \times 4 = 20$

Use **order of operation** rules to work out the answers for these questions involving brackets and exponents.

(25) 2(4 × 3 + 8) = **2(12 + 8) = 2 × 20 = 40**

(26) 5(30 – 3 × 6) = **5(30 - 18) = 5 × 12 = 60**

(27) $6(36 \div 9 + 4^2)$ = **6(4 + 16) = 6 × 20 = 120**

Add +, –, × or ÷ to make each statement true. Remember ....

BEDMAS

(28) 6 × 6 + 9 = 45

(29) 35 ÷ 5 + 8 = 15

(30) 8 × 6 + 27 ÷ 9 = 51

(31) Aimee bought 7 books worth $9.00 each and 6 pens worth $3.50 each. How much did she spend altogether?

7 × 9 + 6 × 3.5 = 63 + 21 = $84

The aim of this activity sheet is to understand square / square roots and order of operations when calculating answers involving the four operations and exponents.

Suggested EXTENSION activity:
Make up similar number and word questions as on this worksheet that require finding squares or square roots and questions using the order of operation rules.

Example: If a square tiled area has sides of 15 tiles, how many tiles are in this area?

If I buy five C.D.'s at $15.00 each and a book worth $12.50, how much have I spent?

Sign when completed: .....

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