# Year 5

## Multiplication and Division

Name _____

**1** Calculate.

312 × 3 = 936

312 ÷ 3 = 104

1,371 × 7 = 9,597

798 ÷ 5 = 159 r3

4 marks

**2** Complete the calculation.

| | | | | |
|---|---|---|---|---|
| | | 2 | 0 | 7 |
| × | | | | 6 |
| | 1 | 2 | 4 | 2 |

4

Allow 1 mark if 1 error has been made.

2 marks

**3** Jack is thinking of a number.
When he multiplies his number by 7, he gets 161
What is Jack's number?

23

1 mark

**4** Complete the grid for the multiplication 36 × 14

| | 30 | 6 |
|---|---|---|
| 10 | 300 | 60 |
| 4 | 120 | 24 |

Allow 1 mark if 1 error has been made.

2 marks

Use the grid to work out 36 × 14

504

1 mark

**5** In a theatre there are 45 rows of chairs.
There are 36 chairs in each row.
How many chairs are there altogether?

1 mark for correct method with 1 error.

1,620 chairs

2 marks

**6** Jen and Max each have 5 digit cards.

| 1 | 4 | 5 | 7 | 8 |
|---|---|---|---|---|

Jen arranges her cards to make a 3-digit and 2-digit number.

| 1 | 5 | 7 | × | 4 | 8 |
|---|---|---|---|---|---|

She multiplies the two numbers together.
What is her answer?

1 mark for correct method with 1 error.

7,536

2 marks

Max arranges his cards to make a 3-digit and 2-digit number.
He multiplies his numbers and his answer ends in a 5
What could the 3-digit and 2-digit number be?

| 8 | 7 | 5 | × | 4 | 1 |
|---|---|---|---|---|---|

Any combination where one of the ones columns has the 5 in and the other has either 1 or 7

1 mark

**7** A jacket costs £52
Eight jackets and three skirts cost £653
How much does a skirt cost?

1 mark for three skirts costing £237

£ 79

2 marks

**8** Some cards are shared between 7 boxes.
There are 63 cards in each box and 4 left over.
How many cards were shared between the boxes?

445 cards

1 mark

**9** Work out 25 × 87 × 4
Explain or show your method.

E.g. I did 25 × 4 first which is 100, then multiplied 87 by 100

8,700

2 marks

Circle how confident you feel with multiplication and division.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not confident | | | | Very confident |

# Divide 2-digits by 1-digit (2)

**1** Whitney is working out 49 ÷ 4 using a place value chart.

| Tens | Ones |
|---|---|
| 10 | 1 1 |
| 10 | 1 1 |
| 10 | 1 1 |
| 10 | 1 1 |

1

**a)** Talk about Whitney's method with a partner.

**b)** Why is there one counter left over?

It is a remainder.

**c)** Complete the division.

49 ÷ 4 = 12 r 1

**d)** Use place value counters to complete the divisions.

50 ÷ 4 = 12 r 2

51 ÷ 4 = 12 r 3

What do you notice?

**2** Complete the divisions.

**a)** 47 ÷ 3 = 15 r 2

**b)** 26 ÷ 5 = 5 r 1

**c)** 89 ÷ 4 = 22 r 1

**d)** 32 ÷ 5 = 6 r 2

**e)** 49 ÷ 6 = 8 r 1

**f)** 47 ÷ 4 = 11 r 3

**g)** 74 ÷ 3 = 24 r 2

**h)** 81 ÷ 7 = 11 r 4

**3** Complete the divisions.

**a)** 36 ÷ 4 = 9

37 ÷ 4 = 9 r 1

38 ÷ 4 = 9 r 2

39 ÷ 4 = 9 r 3

40 ÷ 4 = 10

**b)** 70 ÷ 5 = 14

71 ÷ 5 = 14 r 1

72 ÷ 5 = 14 r 2

73 ÷ 5 = 14 r 3

74 ÷ 5 = 14 r 4

**c)** 45 ÷ 3 = 15

46 ÷ 3 = 15 r 1

47 ÷ 3 = 15 r 2

48 ÷ 3 = 16

49 ÷ 3 = 16 r 1

**d)** 92 ÷ 4 = 23

91 ÷ 4 = 22 r 3

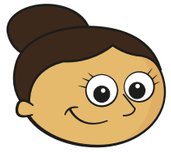
90 ÷ 4 = 22 r 2

89 ÷ 4 = 22 r 1

88 ÷ 4 = 22

**4** Dora has been working out some divisions.

$72 \div 4 = 18$
$73 \div 4 = 18$ r1
$74 \div 4 = 18$ r2
$75 \div 4 = 18$ r3



I know without working it out that $76 \div 4$ must be 18 r4

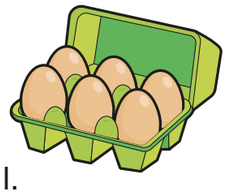
**a)** Why does Dora think this?

She has spotted a pattern.

**b)** Explain why Dora is wrong.

You can't have a remainder of 4 when dividing by 4

**5** Eggs come in boxes of 6



Annie has 75 eggs.

She wants to know how many boxes she can fill.

**a)** Complete the division to work it out.

75 ÷ 6 = 12 r 3

**b)** What does the remainder represent?

Talk about it with a partner.

**c)** Complete the sentence.

Annie can fill 12 boxes with 3 eggs left over.

**6** Jack has these bulbs.


Daffodils 49


Tulips 63


Crocuses 98

Equal numbers of each bulb are put into 4 tubs.

How many of each bulb will be in each tub?

Daffodils 12 Tulips 15 Crocuses 24

How many of each bulb will be left over?

Daffodils 1 Tulips 3 Crocuses 2

How many tubs could Jack use so that there are no bulbs left over?

# Divide 3-digits by 1-digit

**1** Jack is working out 844 ÷ 4 using a place value chart.

| H | T | O |
|---|---|---|
| 100 100 | 10 | 1 |
| 100 100 | 10 | 1 |
| 100 100 | 10 | 1 |
| 100 100 | 10 | 1 |

**a)** Talk about Jack's method with a partner.

**b)** Complete the division.

844 ÷ 4 = 211

**2** Use Jack's method to work out these divisions.

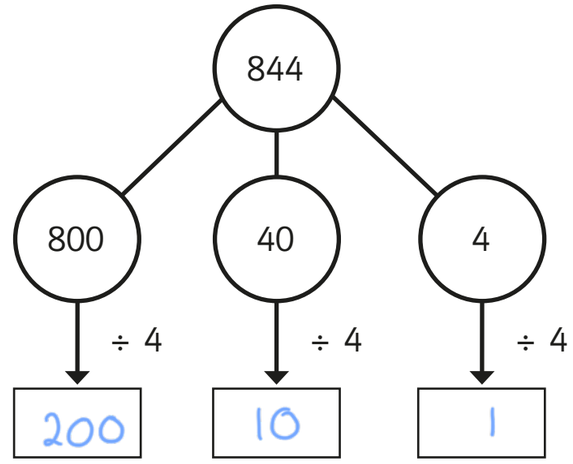
**a)** 525 ÷ 5 = 105

**b)** 636 ÷ 6 = 106

**c)** 840 ÷ 8 = 105

**d)** 903 ÷ 3 = 301

**3** Eva is working out 844 ÷ 4 using a part-whole model.




Complete Eva's method.

844 ÷ 4 = 211

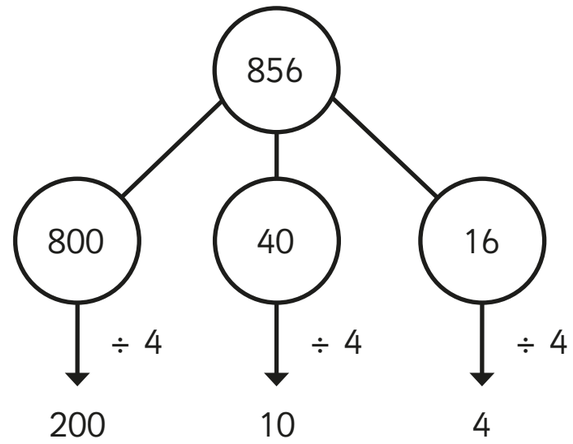
**4** A ball of string is 848 cm long.

It is cut into 4 equal pieces.

What is the length of one piece of string?

212cm

**5** Whitney is using flexible partitioning to divide a 3-digit number.




Could Whitney have partitioned her number another way?

Use Whitney's method to work out these divisions.

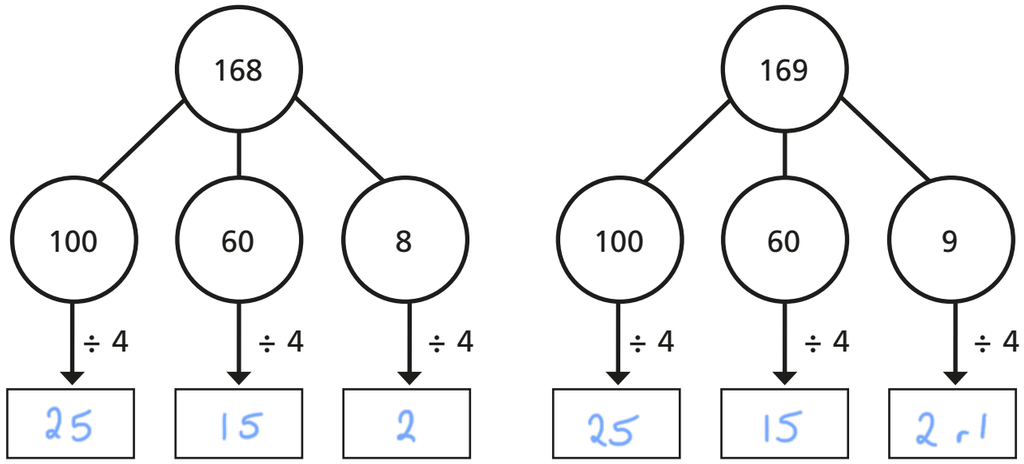
**a)** 585 ÷ 5 = 117

**c)** 648 ÷ 4 = 162

**b)** 672 ÷ 6 = 112

**d)** 847 ÷ 7 = 121

**6** Complete the part-whole models and divisions.




168 ÷ 4 = 42

169 ÷ 4 = 42 r 1

What is the same and what is different about the calculations?

Talk about it with a partner.

**7** Complete the divisions.

**a)** 258 ÷ 6 =

**c)** 864 ÷ 4 =

**b)** 623 ÷ 5 =

**d)** 824 ÷ 3 =

**8** Eva has a piece of ribbon.

The ribbon measures 839 cm long.

How much ribbon would be left over if she cuts it into:

**a)** 4 equal pieces

3 cm

**b)** 6 equal pieces

5 cm

**c)** 8 equal pieces

7 cm

Can Eva cut the ribbon into equal pieces with no ribbon left over? Yes

Explain your answer. 839 pieces each 1 cm long.

**9** Use 15 counters and a place value chart.

**a)** Can you make a number that is divisible by 3? yes

**b)** Can you make a number that has a remainder of 1 when divided by 3? no

**c)** Can you make a number that has a remainder of 2 when divided by 3? no

What do you notice? Talk about your findings with a partner.

# Divide 4-digits by 1-digit

**1** **a)** Circle the groups of 3 to help you complete the sentences and calculation.

The first step has been done for you.

| Th | H | T | O |
|---|---|---|---|
| 1,000 1,000 1,000 | 100 100 100 100 100 100 100 | 10 10 10 | 1 1 1 1 1 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 3 | 1 | 2 | |
| | 3 | 3 | 9 | 3 | 6 | |

There is [1] group of 3 thousands.

There are [3] groups of 3 hundreds.

There is [1] group of 3 tens.

There are [2] groups of 3 ones.

3,936 ÷ 3 = [1,312]

**b)** Use the place value chart to work out 8,404 ÷ 4

| Th | H | T | O |
|---|---|---|---|
| | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 2 | 1 | 0 | 1 | |
| | 4 | 8 | 4 | 0 | 4 | |

8,404 ÷ 4 = [2,101]

**2** Use the place value charts to work out the divisions.

**a)** 8,532 ÷ 2 = [4,266]

| Th | H | T | O |
|---|---|---|---|
| 1,000 1,000 1,000 1,000 | 100 100 100 100 100 | 10 10 10 10 10 10 10 10 10 10 | 1 1 1 1 1 1 1 1 1 1 1 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 4 | 2 | 6 | 6 | |
| | 2 | 8 | 5 | 3 | 2 | |

**b)** 5,296 ÷ 4 = [1,324]

| Th | H | T | O |
|---|---|---|---|
| | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 3 | 2 | 4 | |
| | 4 | 5 | 2 | 9 | 6 | |

**c)** 6,078 ÷ 6 = [1,013]

| Th | H | T | O |
|---|---|---|---|
| | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 0 | 1 | 3 | |
| | 6 | 6 | 0 | 7 | 8 | |

**3** Complete the divisions.

**a)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 0 | 7 | 1 | 2 | |
| | 5 | 3 | 3 5 | 6 | 1 0 | |

**b)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 0 | 3 | 0 | 4 | |
| | 9 | 2 | 2 7 | 3 | 3 6 | |

**c)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 6 | 3 | 1 | |
| | 4 | 6 | 2 5 | 1 2 | 4 | |

**d)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 6 | 3 | 1 | |
| | 6 | 9 | 3 7 | 1 8 | 6 | |

**e)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 5 | 6 | 1 | |
| | 3 | 4 | 1 6 | 1 8 | 3 | |

**f)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 2 | 0 | 7 | 9 | |
| | 1 | 2 | 0 | 7 | 9 | |

Could you have calculated the answer to part f) more efficiently?

**4** Work out the values of $a$, $b$ and $c$.

| 9,415 | | | | | | |
|---|---|---|---|---|---|---|
| $a$ | $a$ | $a$ | $a$ | $a$ | $a$ | $a$ |

$a$ = 1,345

| $b$ | $b$ | $b$ | $b$ | $b$ | $b$ | $b$ | $b$ |
|---|---|---|---|---|---|---|---|
| 5,328 | | | | | | | |

$b$ = 666

| 120 | | 120 | | 120 | | 120 | |
|---|---|---|---|---|---|---|---|
| $c$ | $c$ | $c$ | $c$ | $c$ | $c$ | $c$ | $c$ |

$c$ = 80

**5** Find the missing digits.

**a)**

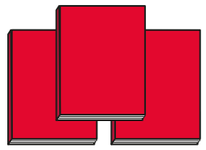
| | | | | | | |
|---|---|---|---|---|---|---|
| | | 2 | 2 | 4 | 1 | |
| | 4 | 8 | 9 | 6 | 4 | |

**b)**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 3 | 2 | 6 | 2 | |
| | 2 | 6 | 5 | 2 | 4 | |

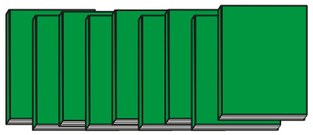
**6** Books are available to buy in three different deals.

**Deal A**



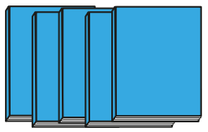
£12.99

**Deal B**



£38.16

**Deal C**



£25.60

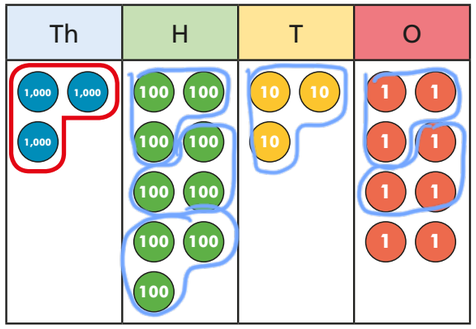
Which is the best deal? Deal B

Show your workings.

# Divide with remainders

**1** **a)** Circle the groups of 3 to help complete the sentences and calculation.

The first step has been done for you.




| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 3 | 1 | 2 | r2 |
| | 3 | 3 | 9 | 3 | 8 | |

There is [1] group of 3 thousands.

There are [3] groups of 3 hundreds.

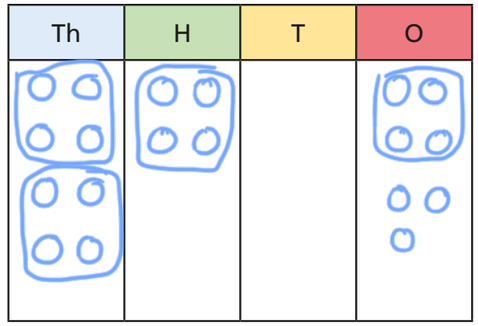
There is [1] group of 3 tens.

There are [2] groups of 3 ones.

There are [2] ones left over.

3,938 ÷ 3 = [1,312] remainder [2]

**b)** Use place value counters to work out 8,407 ÷ 4




| | | | | | | |
|---|---|---|---|---|---|---|
| | | 2 | 1 | 0 | 1 | r3 |
| | 4 | 8 | 4 | 0 | 7 | |

8,407 ÷ 4 = [2,101] remainder [3]

**2** **a)** Complete the divisions.

Use place value counters to help you.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 3 | 1 | r2 | |
| | 3 | 7 | 1 5 | 9 | 5 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2 | 1 | 4 | 1 | r3 | |
| | 4 | 8 | 5 | 1 6 | 7 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 3 | 1 | 2 | r2 | |
| | 5 | 6 | 1 5 | 6 | 1 2 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 3 | 1 | 1 | r2 | |
| | 3 | 3 | 9 | 3 | 5 | | |

**b)** Write <, > or = to complete the statements.

7,595 ÷ 3 [>] 8,567 ÷ 4

6,562 ÷ 5 [>] 3,935 ÷ 3

**3** Write the calculations in the correct column of the table.

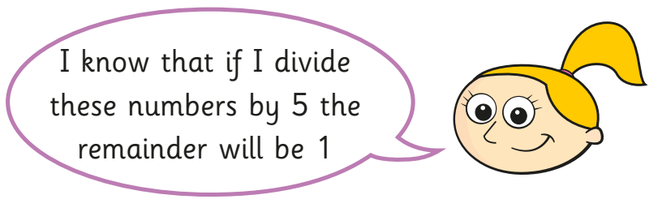
| | | |
|---|---|---|
| 5,066 ÷ 4 | 9,513 ÷ 4 | 1,234 ÷ 4 |
| 6,562 ÷ 4 | 6,563 ÷ 4 | 9,515 ÷ 4 |

| Remainder of 1 | Remainder of 2 | Remainder of 3 | Remainder of 4 |
|---|---|---|---|
| 9,513 ÷ 4 | 5,066 ÷ 4<br>6,562 ÷ 4<br>1,234 ÷ 4 | 6,563 ÷ 4<br>9,515 ÷ 4 | |

Are any columns empty? Talk to a partner about why this has happened.

**4**

| | | | |
|---|---|---|---|
| 7,816 | 7,861 | 6,781 | 1,786 |




Is Eva correct? Yes

How do you know?

**5** There are 459 children in a school.

They are sitting at tables in groups of 7


Do you agree with Mo? NO

Explain your answer.

**6** Bags of crisps are put into multipacks of 6

The multipacks are then packed into boxes of 8

Yesterday, 6,500 bags of crisps were packed.

How many boxes of crisps were packed?

135

**7**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 4 | 5 | | | | ÷ | |

**a)** How many ways can you complete the calculation using all the digit cards so that there is a remainder of 1?

Eg. 325 ÷ 4 = 81 r 1

**b)** What do you notice?

**8** Dora is thinking of a number between 500 and 600

When she divides it by a 1-digit number it has a remainder of 4

What could Dora's number be?