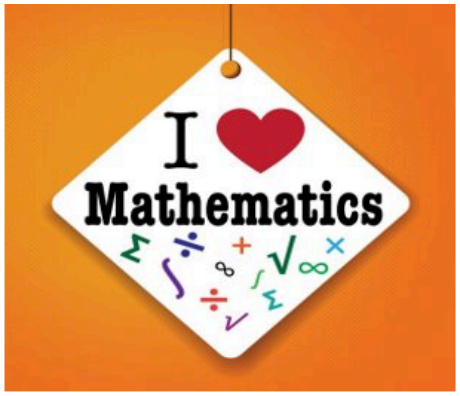



# Monday 22nd February

Divide by 10, 100 and 1000

Watch the video link and answer the following questions.

https://vimeo.com/488186549

# Divide by 10, 100 and 1,000

**1** Complete the calculations and sentences.

Use place value counters to help you.

| Th | H | T | O • | Tth | Hth |
|---|---|---|---|---|---|
| | ● | ● ● ● ● | | | |

**a)** 140 ÷ 10 = ☐

When the number is divided by 10 the counters move ☐ place to the right.

**b)** 140 ÷ 100 = ☐

When the number is divided by 100 the counters move ☐ places to the right.

**c)** 140 ÷ 1,000 = ☐

When the number is divided by 1,000 the counters move ☐ places to the right.

**2** Complete the diagram.

43 → ÷ 10 → ☐ → ÷ 10 → ☐

**3** **a)** Draw counters to represent the calculations.

123 ÷ 1

| H | T | O • | Tth | Hth | Thth |
|---|---|---|---|---|---|
| | | | | | |

123 ÷ 10

| H | T | O • | Tth | Hth | Thth |
|---|---|---|---|---|---|
| | | | | | |

123 ÷ 100

| H | T | O • | Tth | Hth | Thth |
|---|---|---|---|---|---|
| | | | | | |

123 ÷ 1,000

| H | T | O • | Tth | Hth | Thth |
|---|---|---|---|---|---|
| | | | | | |

**b)** Complete the calculations.

123 ÷ 1 = ☐

123 ÷ 10 = ☐

123 ÷ 100 = ☐

123 ÷ 1,000 = ☐

What do you notice?

# The Answers Are On The Next Slide .....

# Divide by 10, 100 and 1,000

**1** Complete the calculations and sentences.

Use place value counters to help you.

| Th | H | T | O | Tth | Hth |
|---|---|---|---|---|---|
| | ● | ● ● ● ● | | | |

**a)** 140 ÷ 10 = 14

When the number is divided by 10 the counters move 1 place to the right.

**b)** 140 ÷ 100 = 1·4

When the number is divided by 100 the counters move 2 places to the right.

**c)** 140 ÷ 1,000 = 0·14

When the number is divided by 1,000 the counters move 3 places to the right.

**2** Complete the diagram.

43 → ÷ 10 → 4·3 → ÷ 10 → 0·43

**3** **a)** Draw counters to represent the calculations.

123 ÷ 1

| H | T | O | Tth | Hth | Thth |
|---|---|---|---|---|---|
| ○ | ○ ○ | ○ ○ ○ | | | |

123 ÷ 10

| H | T | O | Tth | Hth | Thth |
|---|---|---|---|---|---|
| ○ | ○ ○ | ○ ○ ○ | | | |

123 ÷ 100

| H | T | O | Tth | Hth | Thth |
|---|---|---|---|---|---|
| ○ | ○ ○ | ○ ○ ○ | | | |

123 ÷ 1,000

| H | T | O | Tth | Hth | Thth |
|---|---|---|---|---|---|
| ○ | ○ ○ | ○ ○ ○ | | | |

**b)** Complete the calculations.

123 ÷ 1 = 123

123 ÷ 10 = 12.3

123 ÷ 100 = 1.23

123 ÷ 1,000 = 0.123

What do you notice?

**4** Complete the calculations.

**a)** 16 ÷ 10 = ☐

**b)** 43.4 ÷ 100 = ☐

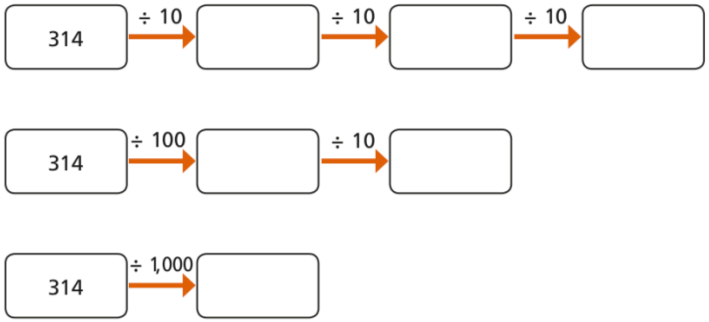
**c)** 614 ÷ 1,000 = ☐

**d)** 332 ÷ ☐ = 0.332

**e)** 2.4 ÷ 200 = ☐

**f)** 5.09 = ☐ ÷ 20

**5** Complete the diagrams.




What do you notice? Why does this happen?

**6** Write >, < or = to compare the number sentences.

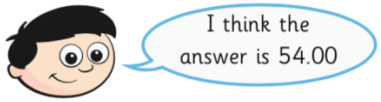
5,400 ÷ 10 ÷ 10 ÷ 10 ◯ 5,400 ÷ 1,000

60 ÷ 100 ÷ 10 ◯ 600 ÷ 100

5.7 ÷ 10 ◯ 57 ÷ 100

5,601 ÷ 1,000 ◯ 5.601 ÷ 10

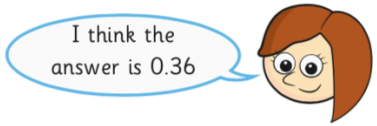
**7** Dexter is solving the calculation 5,400 ÷ 100




Is Dexter correct? _____

Explain your reasoning.

**8** Rosie is solving the calculation 3,600 ÷ 200




Is Rosie correct? _____

Explain your reasoning.

# The Answers Are On The Next Slide .....

**4** Complete the calculations.

a) 16 ÷ 10 = 1·6

b) 43.4 ÷ 100 = 0·434

c) 614 ÷ 1,000 = 0·614

d) 332 ÷ 1,000 = 0.332

e) 2.4 ÷ 200 = 0.012

f) 5.09 = 101.8 ÷ 20

**5** Complete the diagrams.

314 ÷ 10 → 31·4 ÷ 10 → 3·14 ÷ 10 → 0·314

314 ÷ 100 → 3·14 ÷ 10 → 0·314

314 ÷ 1,000 → 0·314

What do you notice? Why does this happen?

They all give the same final answer because 10 x 10 x 10 = 100 x 10 = 1,000

**6** Write >, < or = to compare the number sentences.

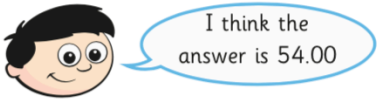
5,400 ÷ 10 ÷ 10 ÷ 10 = 5,400 ÷ 1,000

60 ÷ 100 ÷ 10 < 600 ÷ 100

5.7 ÷ 10 = 57 ÷ 100

5,601 ÷ 1,000 > 5.601 ÷ 10

**7** Dexter is solving the calculation 5,400 ÷ 100

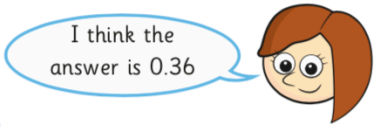



Is Dexter correct? Yes

Explain your reasoning.

54·00 is the same as 54

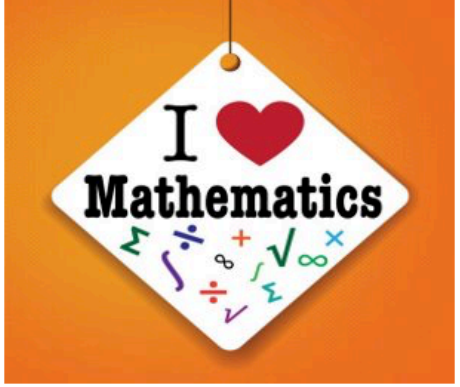
**8** Rosie is solving the calculation 3,600 ÷ 200




Is Rosie correct? No

Explain your reasoning.

She has divide by 100 twice (10,000) she should have divided by 100 then 2 to give an answer of 18




# Tuesday 23rd February

Multiply decimals by integers

Watch the video link and answer the following questions.

https://vimeo.com/490690764

# Multiply decimals by integers

**1** Use place value counters to solve the calculations.

**a)** 3.2 × 3 = ☐

| Ones | Tenths |
|---|---|
| 1 1 1 | 0.1 0.1 |
| 1 1 1 | 0.1 0.1 |
| 1 1 1 | 0.1 0.1 |

**b)** 4.6 × 2 = ☐

| Ones | Tenths |
|---|---|
| 1 1 1 1 | 0.1 0.1 0.1 0.1 0.1 0.1 |
| 1 1 1 1 | 0.1 0.1 0.1 0.1 0.1 0.1 |

**2** Solve the multiplication. Draw your answer.

12.2 × 3 = ☐

| Tens | Ones | Tenths |
|---|---|---|
| | | |

**3** Nijah uses long multiplication to solve 3.72 × 3

| | | | | | |
|---|---|---|---|---|---|
| | | 3 | 7 | 2 | |
| | × | | | 3 | |
| | | 0 | 0 | 6 | |
| | | 2 | 1 | 0 | |
| | | 9 | 0 | 0 | |
| | 1 | 1 | 1 | 6 | |

Use long multiplication to work out the calculations.

**a)**

| | | | | | |
|---|---|---|---|---|---|
| | | 4 | 8 | 6 | |
| | × | | | 4 | |

**b)**

| | | | | | |
|---|---|---|---|---|---|
| | | 2 | 0 | 9 | |
| | × | | | 6 | |

**4** Work out the multiplications.

**a)** 5.2 × 4 = ☐

**b)** 14.3 × 3 = ☐

**c)** 6 × 9.1 = ☐

**d)** ☐ = 2.34 × 3

**e)** 11.505 × 4 = ☐

**f)** 9.602 × 6 = ☐

# The Answers Are On The Next Slide .....

# Multiply decimals by integers

**1** Use place value counters to solve the calculations.

**a)** 3.2 × 3 = 9.6

| Ones | Tenths |
|---|---|
| 1 1 1 | 0.1 0.1 |
| 1 1 1 | 0.1 0.1 |
| 1 1 1 | 0.1 0.1 |

**b)** 4.6 × 2 = 9.2

| Ones | Tenths |
|---|---|
| 1 1 1 1 | 0.1 0.1 0.1 0.1 0.1 0.1 |
| 1 1 1 1 | 0.1 0.1 0.1 0.1 0.1 0.1 |

**2** Solve the multiplication. Draw your answer.

12.2 × 3 = 36.6

| Tens | Ones | Tenths |
|---|---|---|
| ○ ○ ○ | ○○ ○○ ○○ | ○○ ○○ ○○ |

**3** Nijah uses long multiplication to solve 3.72 × 3

| | | | | | |
|---|---|---|---|---|---|
| | | 3 | 7 | 2 | |
| | × | | | 3 | |
| | | 0 | 0 | 6 | |
| | | 2 | 1 | 0 | |
| | | 9 | 0 | 0 | |
| | 1 | 1 | 1 | 6 | |

Use long multiplication to work out the calculations.

**a)**

| | | | | | |
|---|---|---|---|---|---|
| | | 4 | 8 | 6 | |
| | × | | | 4 | |
| | | 0 | 2 | 4 | |
| | | 3 | 2 | 0 | |
| | 1 | 6 | 0 | 0 | |
| | 1 | 9 | 4 | 4 | |

**b)**

| | | | | | |
|---|---|---|---|---|---|
| | | 2 | 0 | 9 | |
| | × | | | 6 | |
| | | 0 | 5 | 4 | |
| | | 0 | 0 | 0 | |
| | 1 | 2 | 0 | 0 | |
| | 1 | 2 | 5 | 4 | |

**4** Work out the multiplications.

**a)** 5.2 × 4 = 20.8

**b)** 14.3 × 3 = 42.9

**c)** 6 × 9.1 = 54.6

**d)** 7.02 = 2.34 × 3

**e)** 11.505 × 4 = 46.02

**f)** 9.602 × 6 = 57.612

**5** 0.25 kg of flour is needed to make one cake.

How much flour is needed to make four cakes?


**6** Work out the multiplications.

**a)** 7.2 × 2 = ☐

7.2 × 4 = ☐

14.4 × 4 = ☐

7.2 × 8 = ☐

**b)** ☐ = 3.45 × 3

☐ = 34.5 × 3

☐ = 345 × 3

**7** Amir is solving 3.4 × 4

To solve this, I did 34 × 4, which was 136 Then I multiplied my answer by 10 to get an answer of 1,360

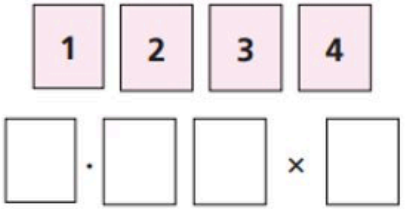
Do you agree with Amir? _____

Explain why.

_____

_____

**8** Use the digits 1, 2, 3 and 4 once each to create a calculation.




**a)** How many different products can you make?

**b)** What is the greatest possible product?

**c)** What is the smallest possible product?

**d)** What is the product closest to 12?

Compare answers with a partner.

# The Answers Are On The Next Slide .....

**5** 0.25 kg of flour is needed to make one cake.

How much flour is needed to make four cakes?


1 kg

**6** Work out the multiplications.

a) 7.2 × 2 = 14·4

7.2 × 4 = 28·8

14.4 × 4 = 57·6

7.2 × 8 = 57·6

b) 10·35 = 3.45 × 3

103·5 = 34.5 × 3

1,035 = 345 × 3

**7** Amir is solving 3.4 × 4

To solve this, I did 34 × 4, which was 136 Then I multiplied my answe by 10 to get an answer of 1,360

Do you agree with Amir? NO

Explain why.

34 is ten times bigger than 3·4 so he should have divided by 10 to get 13·6

**8** Use the digits 1, 2, 3 and 4 once each to create a calculation..

| 1 | 2 | 3 | 4 |
|---|---|---|---|

| | . | | | × | |
|---|---|---|---|---|---|

a) How many different products can you make?

b) What is the greatest possible product?

12·84

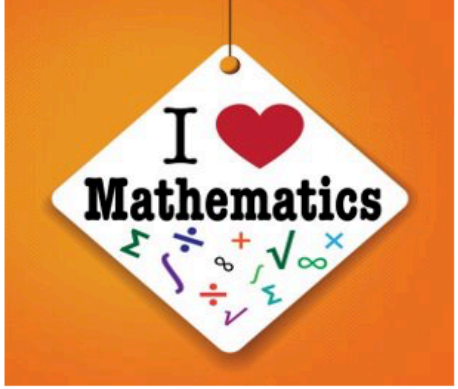
c) What is the smallest possible product?

2·34

d) What is the product closest to 12?

12·36

Compare answers with a partner.




# Wednesday 24th February

Divide decimals by integers

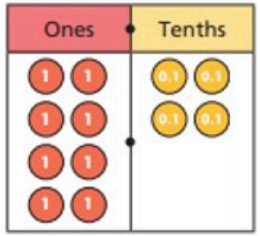
Watch the video link and answer the following questions.

https://vimeo.com/490691239

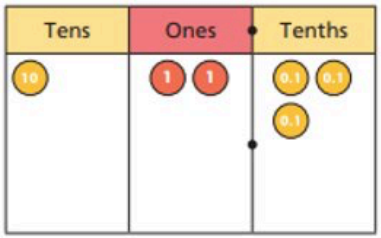
# Divide decimals by integers

**1** Use place value counters to work out the divisions.

**a)** $8.4 \div 4 =$ ☐




**b)** $12.3 \div 3 =$ ☐

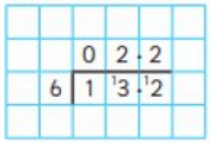



**2** Work out the division. Draw your answer.

$16.4 \div 4 =$ ☐

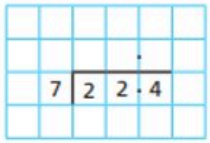
| Tens | Ones | Tenths |
|---|---|---|
| | | |

**3** Brett uses short division to work out $13.2 \div 6$

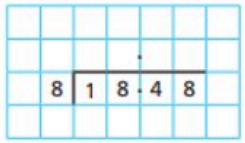



Use short division to work out the calculations.

**a)**




**b)**




**4** Work out the divisions.

**a)** $25.6 \div 8 =$ ☐

**b)** $14.8 \div 4 =$ ☐

**c)** $18.48 \div 6 =$ ☐

**d)** ☐ $= 19.45 \div 5$

**e)** $202.35 \div 3 =$ ☐

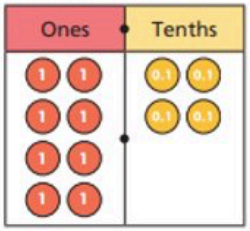
**f)** $105.12 \div 9 =$ ☐

# The Answers Are On The Next Slide .....

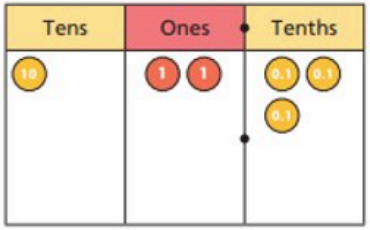
# Divide decimals by integers

**1** Use place value counters to work out the divisions.

a) $8.4 \div 4 =$ 2·1

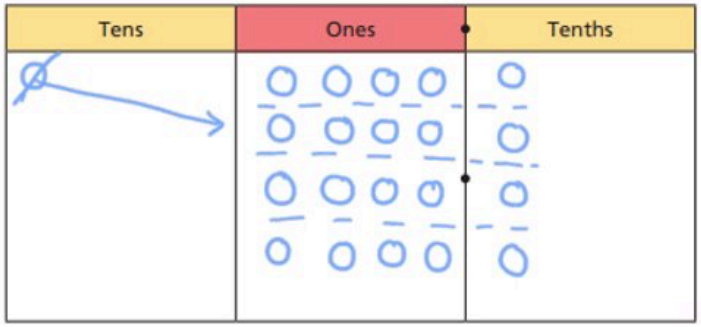



b) $12.3 \div 3 =$ 4·1

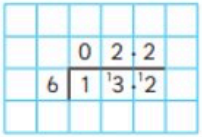



**2** Work out the division. Draw your answer.

$16.4 \div 4 =$ 4·1

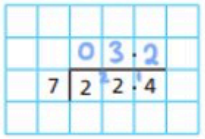



**3** Brett uses short division to work out $13.2 \div 6$

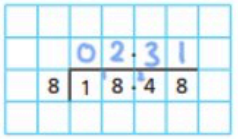



Use short division to work out the calculations.

a)




b)




**4** Work out the divisions.

a) $25.6 \div 8 =$ 3·2

b) $14.8 \div 4 =$ 3·7

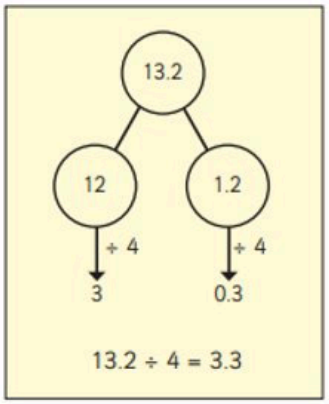
c) $18.48 \div 6 =$ 3·08

d) 3·89 $= 19.45 \div 5$

e) $202.35 \div 3 =$ 67·45

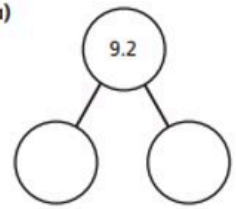
f) $105.12 \div 9 =$ 11·68

**5** Esther solves 13.2 ÷ 4 by partitioning 13.2 into two numbers that are easier to divide.



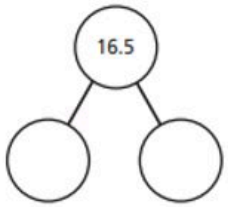

Use Esther's method to complete the part-whole model and calculation.

**a)**




9.2 ÷ 4 = ☐

**b)**




16.5 ÷ 3 = ☐

Compare answers with a partner. Did you partition your numbers in the same way?

**6** Work out the divisions.

**a)** 9.64 ÷ 4 = ☐

96.4 ÷ 4 = ☐

0.964 ÷ 4 = ☐

9.64 ÷ 8 = ☐

**b)** 19.44 ÷ 9 = ☐

19.53 ÷ 9 = ☐

19.62 ÷ 9 = ☐

**7** Fill in the missing numbers.

3.6 ÷ 4 = 36 ÷ ☐

3.6 ÷ 4 = ☐ ÷ 8

**8** Complete the calculation.

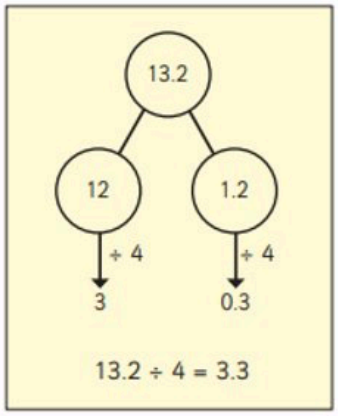
8.4 ÷ ☐ = 4.2 ÷ ☐

How many different solutions can you find?

What patterns do you notice? Talk about it with a partner.

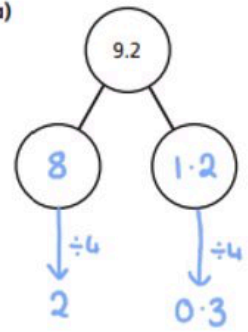
# The Answers Are On The Next Slide .....

**5** Esther solves 13.2 ÷ 4 by partitioning 13.2 into two numbers that are easier to divide.



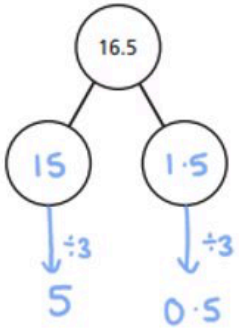

Use Esther's method to complete the part-whole model and calculation.

**a)**




9.2 ÷ 4 = 2·3

**b)**




16.5 ÷ 3 = 5·5

Compare answers with a partner. Did you partition your numbers in the same way?

**6** Work out the divisions.

**a)** 9.64 ÷ 4 = 2·41

96.4 ÷ 4 = 24·1

0.964 ÷ 4 = 0·241

9.64 ÷ 8 = 1·205

**b)** 19.44 ÷ 9 = 2·16

19.53 ÷ 9 = 2·17

19.62 ÷ 9 = 2·18

**7** Fill in the missing numbers.

3.6 ÷ 4 = 36 ÷ 40

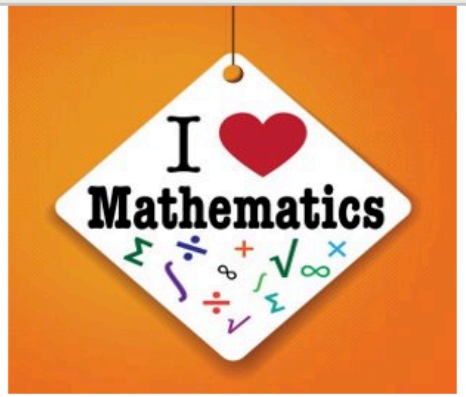
3.6 ÷ 4 = 7·2 ÷ 8

**8** Complete the calculation.

e.g. 8.4 ÷ 2 = 4.2 ÷ 1

How many different solutions can you find?

What patterns do you notice? Talk about it with a partner.




# Thursday 25th February

Division to solve problems

Watch the video link and answer the following questions.

https://vimeo.com/490691954

# Division to solve problems

**1** There are 1,360 children in a school.

A quarter of the children walk to school.

How many children walk to school?

**2** Huan has saved his pocket money for 5 weeks.

He gets the same pocket money every week.

He has saved £16.65

How much pocket money does Huan get each week?

**3** Tom is running a 6-kilometre race.

He has run one-third of the race so far.

How many more kilometres does Tom have left to run?

**4** Dora, Ron and Teddy are making paper chains.

My paper chain is 1.1 m long.

Dora

Dora's paper chain is twice as long as mine.

Ron

My paper chain is three times longer than Ron's.

Teddy

**a)** How long is Ron's paper chain?

**b)** How long is Teddy's paper chain?

**5** A water bottle holds 2 litres.

A leak in the bottle means 25 ml drips out each day.

How many days will it take until the bottle is empty?


days

# The Answers Are On The Next Slide .....

# Division to solve problems

**1** There are 1,360 children in a school.

A quarter of the children walk to school.

How many children walk to school?

340

**2** Huan has saved his pocket money for 5 weeks.

He gets the same pocket money every week.

He has saved £16.65

How much pocket money does Huan get each week?

£3·33

**3** Tom is running a 6-kilometre race.

He has run one-third of the race so far.

How many more kilometres does Tom have left to run?

4km

**4** Dora, Ron and Teddy are making paper chains.

Dora: My paper chain is 1.1 m long.

Ron: Dora's paper chain is twice as long as mine.

Teddy: My paper chain is three times longer than Ron's.

**a)** How long is Ron's paper chain?

0·55m

**b)** How long is Teddy's paper chain?

1·65m

**5** A water bottle holds 2 litres.

A leak in the bottle means 25 ml drips out each day.

How many days will it take until the bottle is empty?


80 days

**6** **a)** A school bus can hold 30 people.

There are 726 children going on a school trip.

How many buses are needed?

**b)** A cake needs 4 eggs.

How many cakes can be made from 345 eggs?

**7** Shop A sells 5 tins of paint for £23.40

Shop B sells 3 tins of the same paint for £14.01


Which shop should Aisha buy her paint from? _____

Explain your reasoning.

**8** 146 ÷ 5 = 29 remainder 1

117 ÷ 4 = 29 remainder 1

This means that 117 ÷ 4 = 146 ÷ 5

Do you agree with Whitney? _____

Explain your thinking.

**9** I'm thinking of a 3-digit number.

When I divide it by 5, I am left with a remainder of 3

When I divide it by 10, I am left with a remainder of 8

It rounds to 200 to the nearest 100

It has one hundred.

What could my number be?

Create your own problem like this for a partner.

# The Answers Are On The Next Slide .....

**6** **a)** A school bus can hold 30 people.

There are 726 children going on a school trip.

How many buses are needed?

25

**b)** A cake needs 4 eggs.

How many cakes can be made from 345 eggs?

86

**7** Shop A sells 5 tins of paint for £23.40

Shop B sells 3 tins of the same paint for £14.01


Which shop should Aisha buy her paint from? B

Explain your reasoning.

Shop A is £4·68 per tin. Shop B is £4·67 per tin so shop B is cheaper

**8** 146 ÷ 5 = 29 remainder 1

117 ÷ 4 = 29 remainder 1

This means that
117 ÷ 4 = 146 ÷ 5

Do you agree with Whitney? No

Explain your thinking.

The remainder isn't worth the same amount.

146 ÷ 5 = 29·2, 117 ÷ 4 = 29·25

29·2 ≠ 29·25

**9** I'm thinking of a 3-digit number.

When I divide it by 5, I am left with a remainder of 3

When I divide it by 10, I am left with a remainder of 8

It rounds to 200 to the nearest 100

It has one hundred.

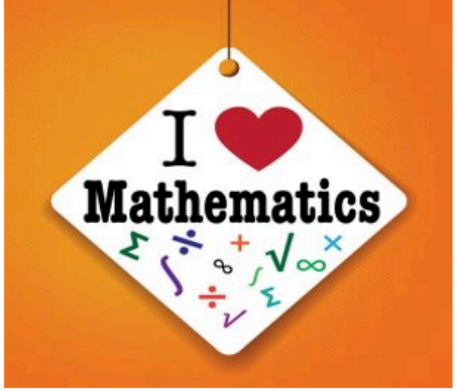
What could my number be?

5, 6, 7, 8 or 9

1 _ 8

e.g. 198

Create your own problem like this for a partner.

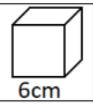
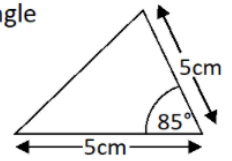



# Friday 26th February

Skills Check

**Maths Key Skills** Stage 6: Skill Check 6

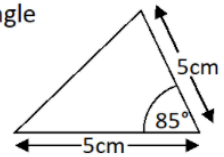
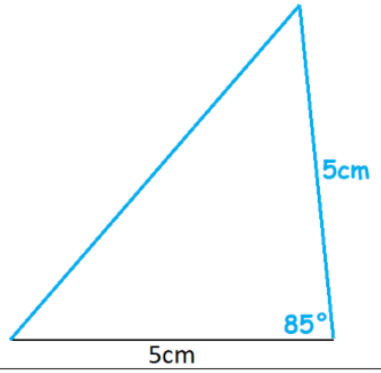
**Name:** _____ **Date:** _____ **Class/Group:** _____

| A: Place Value, Add, Subtract, Multiply and Divide | | B: Fractions, Ratio, Proportion and Algebra | | C: Measure and Geometry | |
|---|---|---|---|---|---|
| 1. Write **five million, seventy one thousand, and eighty four** in digits. | *6:1* | 11. Which is the **largest** fraction? $\frac{1}{2}$ , $\frac{3}{8}$ or $\frac{7}{16}$ | *6:7* | 21. How many **kilometres** are approximately equal to 10 **miles**? | *6:18* |
| 2. What is the value of the **5** in this number? 3,954,682 | *6:1* | 12. $\frac{2}{3} - \frac{4}{7} =$ | *6:8* | 22. Give **two** possible areas of a rectangle with a perimeter of 10cm. | *6:20* |
| 3. Round 4.953 to 2 decimal places. | *6:1* | 13. Simplify your answer. $\frac{5}{6} \times \frac{4}{9} =$ | *6:9* | 23. Write a **formula** to show how to find the area of a triangle. | *6:21* |
| 4. Write the smallest possible crowd. Attendance: 8,200 (to the nearest hundred) | *6:2* | 14. 57,389 ÷ 1000 | *6:10* | 24. Calculate the **volume** of a cube with a 6cm side length.   | *6:22* |
| 5. 4,313 x 11 | *6:3* | 15. 9.42 x 4 | *6:11* | 25. Draw this triangle **accurately** below: Use a ruler and a protractor.   | *6:23* |
| 6. 784 ÷ 16 | *6:3* | 16. Write this percentage as a **fraction** and a **decimal**. 45% | *6:12* | | |
| 7. Which is a **common multiple** of 12 and 15? 24 30 60 75 84 | *6:4* | 17. Find **40%** of 360. | *6:13* | | |
| 8. Which **factor** of 49 is also a **prime number**? | *6:4* | 18. In a class of 35 pupils, $\frac{4}{7}$ are girls. How many boys are there? | *6:14* | | |
| 9. (12 - 9) x (9 + 7) | *6:5* | 19. How much will a 7 minute call cost? Call charge: 25p + 9p per minute. | *6:15* | | |
| 10. I have £10. I buy 2 coffees at £1.73 each. How much do I have left? | *6:6* | 20. What is the **10th term** of this sequence? 2, 8, 14, 20, 26, … | *6:16* | | |
| Total (A) | | Total (B) | | Total (C) | |
| Test Total (A+B+C) | | R (0-9) | Y (10-19) | G (20-25) | |

# The Answers Are On The Next Slide .....

**Maths Key Skills** Stage 6: Skill Check 6 **Answers**

**Name:** _____ **Date:** _____ **Class/Group:** _____

| A: Place Value, Add, Subtract, Multiply and Divide | | B: Fractions, Ratio, Proportion and Algebra | | C: Measure and Geometry | |
|---|---|---|---|---|---|
| 1. Write **five million, seventy one thousand, and eighty four** in digits. | 6:1 **5,071,084** | 11. Which is the **largest** fraction? $\frac{1}{2}$ , $\frac{3}{8}$ or $\frac{7}{16}$ | 6:7 $\frac{1}{2}$ | 21. How many **kilometres** are approximately equal to 10 **miles**? | 6:18 **16** |
| 2. What is the value of the **5** in this number? 3,954,682 | 6:1 **50,000** | 12. $\frac{2}{3} - \frac{4}{7} =$ | 6:8 $\frac{2}{21}$ | 22. Give **two** possible areas of a rectangle with a perimeter of 10cm. | 6:20 **4cm², 6cm²** |
| 3. Round 4.953 to 2 decimal places. | 6:1 **4.95** | 13. Simplify your answer. $\frac{5}{6} \times \frac{4}{9} =$ | 6:9 $\frac{10}{27}$ | 23. Write a **formula** to show how to find the area of a triangle. | 6:21 $\frac{1}{2}$ **b x h** |
| 4. Write the smallest possible crowd. Attendance: 8,200 (to the nearest hundred) | 6:2 **8,150** | 14. 57,389 ÷ 1000 | 6:10 **57.389** | 24. Calculate the **volume** of a cube with a 6cm side length.   | 6:22 **216** |
| 5. 4,313 x 11 | 6:3 **47,443** | 15. 9.42 x 4 | 6:11 **37.68** | 25. Draw this triangle **accurately** below: Use a ruler and a protractor.     | 6:23 **Shape drawn with 85° (+/- 2°) angle and 5cm (+/- 2mm) side length** |
| 6. 784 ÷ 16 | 6:3 **49** | 16. Write this percentage as a **fraction** and a **decimal**. 45% | 6:12 $\frac{9}{20}$ **0.45** | | |
| 7. Which is a **common multiple** of 12 and 15? 24 30 60 75 84 | 6:4 **60** | 17. Find **40%** of 360. | 6:13 **144** | | |
| 8. Which **factor** of 49 is also a **prime number**? | 6:4 **7** | 18. In a class of 35 pupils, $\frac{4}{7}$ are girls. How many boys are there? | 6:14 **15** | | |
| 9. (12 - 9) x (9 + 7) | 6:5 **48** | 19. How much will a 7 minute call cost? Call charge: 25p + 9p per minute. | 6:15 **88p** | | |
| 10. I have £10. I buy 2 coffees at £1.73 each. How much do I have left? | 6:6 **£6.54** | 20. What is the **10th term** of this sequence? 2, 8, 14, 20, 26, ... | 6:16 **56** | | |
| Total (A) | | Total (B) | | Total (C) | |
| Test Total (A+B+C) | | R (0-9) | Y (10-19) | G (20-25) | |