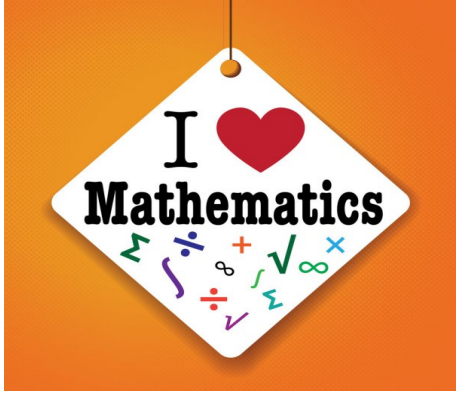


Monday 1st March

Decimals as Fractions

Watch the video link and answer the following questions

https://vimeo.com/490693175

Decimals as fractions

1 Complete the sentences.

a)

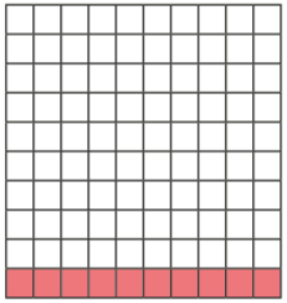
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

The whole has been divided into ☐ equal parts.

Each part is worth ☐

This is equivalent to ☐

b)



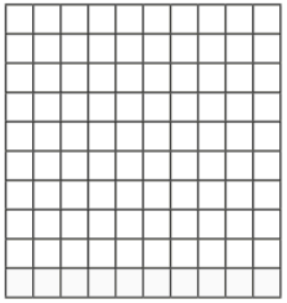
The whole has been divided into ☐ equal parts.

Each part is worth ☐

☐ parts out of ☐ are shaded.

This is equivalent to ☐

2 **a)** Shade 0.17 of the hundred square.



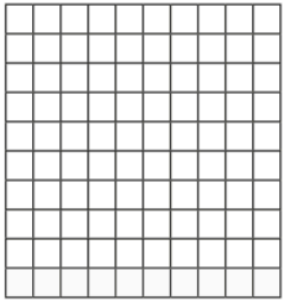
Complete the sentence.

☐ parts out of ☐ are shaded.

Write 0.17 as a fraction.

0.17 = ☐

b) Shade 0.2 of the hundred square.



Complete the sentence.

☐ parts out of ☐ are shaded.

Write 0.2 as a fraction in its simplest form.

0.2 = ☐

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

Decimals as fractions

1 Complete the sentences.

a)

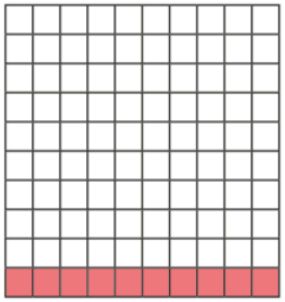
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

The whole has been divided into [10] equal parts.

Each part is worth [0·1]

This is equivalent to [$\frac{1}{10}$]

b)



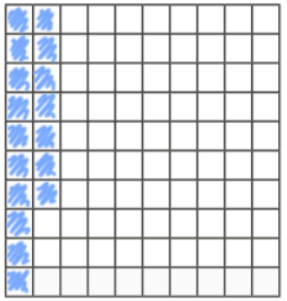
The whole has been divided into [100] equal parts.

Each part is worth [0·01]

[10] parts out of [100] are shaded.

This is equivalent to [$\frac{10}{100}$] or $\frac{1}{10}$

2 **a)** Shade 0.17 of the hundred square.



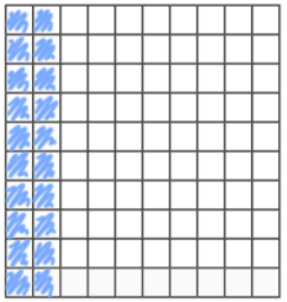
Complete the sentence.

[17] parts out of [100] are shaded.

Write 0.17 as a fraction.

0.17 = [$\frac{17}{100}$]

b) Shade 0.2 of the hundred square.



Complete the sentence.

[20] parts out of [100] are shaded.

Write 0.2 as a fraction in its simplest form.

0.2 = [$\frac{1}{5}$]

3

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

0.2	0.2	0.2	0.2	0.2

Use the bar models to fill in the missing numbers.

$0.2 = \frac{\square}{10} = \frac{1}{\square}$

$0.4 = \frac{\square}{10} = \frac{2}{\square}$

$\square = \frac{\square}{10} = \frac{4}{5}$

4 Fill in the missing numbers.

a) $0.54 = \frac{\square}{100} = \frac{\square}{50}$

b) $0.6 = \frac{\square}{10} = \frac{\square}{5}$

c) $0.3 = \frac{\square}{10} = \frac{\square}{100}$

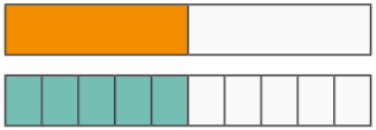
d) $\square = \frac{9}{100}$

e) $\square = \frac{9}{10}$

f) $\frac{21}{50} = \frac{\square}{100} = \square$

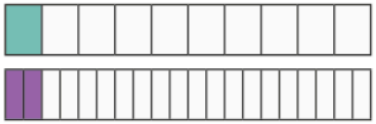
5 Use the bar models to fill in the missing numbers.

a)



$\frac{1}{2} = \frac{\square}{10} = \square$

b)



$\square = \frac{\square}{10} = \frac{\square}{20}$

6

$0.3 = \frac{3}{10}$ so $0.37 = \frac{37}{10}$

Draw a diagram to show that Ron is wrong.

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

3

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

0.2	0.2	0.2	0.2	0.2

Use the bar models to fill in the missing numbers.

$0.2 = \frac{2}{10} = \frac{1}{5}$

$0.4 = \frac{4}{10} = \frac{2}{5}$

$0.8 = \frac{8}{10} = \frac{4}{5}$

4 Fill in the missing numbers.

a) $0.54 = \frac{54}{100} = \frac{27}{50}$

b) $0.6 = \frac{6}{10} = \frac{3}{5}$

c) $0.3 = \frac{3}{10} = \frac{30}{100}$

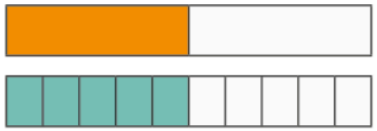
d) $0.09 = \frac{9}{100}$

e) $0.9 = \frac{9}{10}$

f) $\frac{21}{50} = \frac{42}{100} = 0.42$

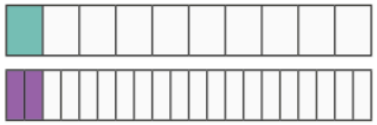
5 Use the bar models to fill in the missing numbers.

a)



$\frac{1}{2} = \frac{5}{10} = 0.5$

b)

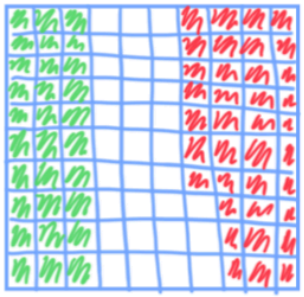


$0.1 = \frac{1}{10} = \frac{2}{20}$

6

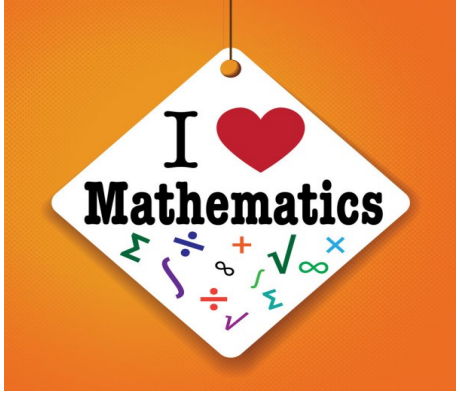
$0.3 = \frac{3}{10}$ so $0.37 = \frac{37}{10}$

Draw a diagram to show that Ron is wrong.



$0.3 = \frac{3}{10}$

$0.37 = \frac{37}{100}$



Tuesday 2nd March

Fractions to Decimals

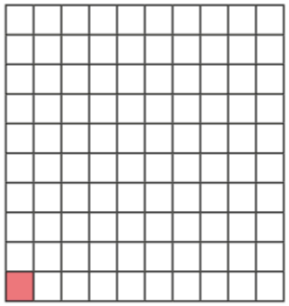
Watch the video link and answer the following questions

https://vimeo.com/491237616

Fractions to decimals (1)

1 Complete the sentences.

a)

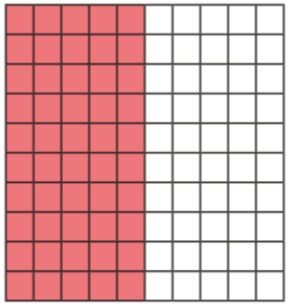


Each square represents $\frac{\square}{100}$

$\frac{\square}{100}$ of the whole square is shaded.

This is equivalent to $\square$ as a decimal.

b)

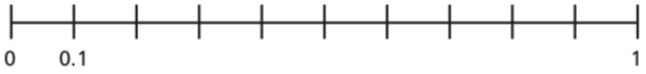


$\frac{\square}{100}$ of the whole square is shaded.

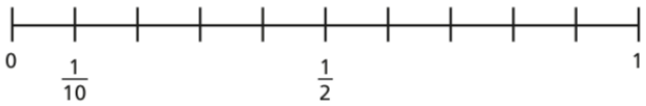
This can be simplified to $\frac{\square}{\square}$

This is equivalent to $\square$ as a decimal.

2 **a)**

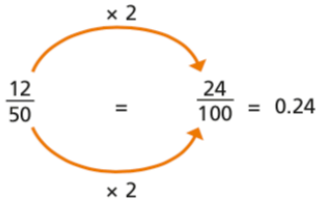


b)



What is the same and what is different about the number lines?

3 To convert a fraction to a decimal, you can use equivalent fractions to make the denominator 100



Use this method to find the equivalent decimals for the fractions.

a) $\frac{28}{50} = \frac{\square}{100} = \square$

b) $\frac{6}{20} = \frac{\square}{100} = \square$

c) $\frac{9}{25} = \frac{\square}{100} = \square$

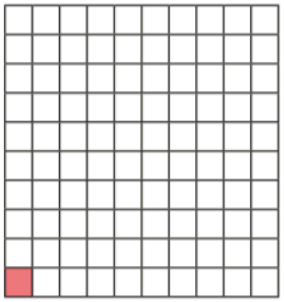
d) $\frac{24}{200} = \frac{\square}{100} = \square$

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

Fractions to decimals (1)

1 Complete the sentences.

a)

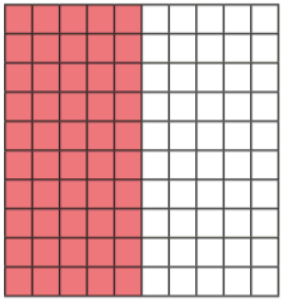


Each square represents $\frac{1}{100}$

$\frac{1}{100}$ of the whole square is shaded.

This is equivalent to 0·01 as a decimal.

b)



$\frac{50}{100}$ of the whole square is shaded.

This can be simplified to $\frac{1}{2}$

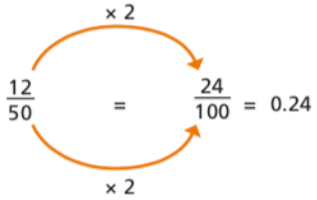
This is equivalent to 0·5 as a decimal.

2 **a)**

b)

What is the same and what is different about the number lines?

3 To convert a fraction to a decimal, you can use equivalent fractions to make the denominator 100



Use this method to find the equivalent decimals for the fractions.

a) $\frac{28}{50} = \frac{56}{100} =$ 0·56

b) $\frac{6}{20} = \frac{30}{100} =$ 0·3

c) $\frac{9}{25} = \frac{36}{100} =$ 0·36

d) $\frac{24}{200} = \frac{12}{100} =$ 0·12

4 Some fractions can be converted to have a denominator of 1,000 to find their decimal equivalent.

$$\frac{62}{500} \xrightarrow{\times 2} \frac{124}{1000} = 0.124$$

a) $\frac{27}{500} = \frac{\square}{1000} = \square$

b) $\frac{62}{250} = \frac{\square}{1000} = \square$

c) $\frac{51}{200} = \frac{\square}{1000} = \square$

d) $\frac{128}{2{,}000} = \frac{\square}{1000} = \square$

5 Convert the fractions to their decimal equivalents.

a) $\frac{1}{5} = \square$

$\frac{1}{10} = \square$

$\frac{1}{20} = \square$

$\frac{1}{40} = \square$

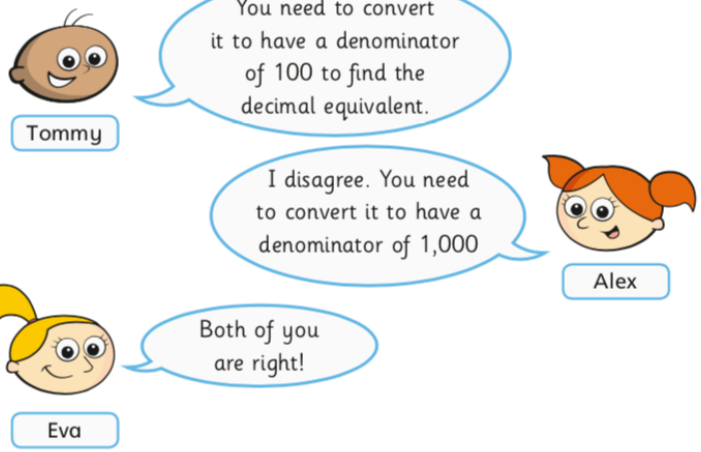
b) $\frac{1}{20} = \square$

$\frac{2}{20} = \square$

$\frac{3}{20} = \square$

$\frac{6}{20} = \square$

6 Tommy, Alex and Eva are working out the decimal equivalent of $\frac{60}{200}$



Who do you agree with? _____

Explain your thinking.

_____

_____

_____

7 0.5 is equivalent to $\frac{1}{2}$, $\frac{5}{10}$, $\frac{50}{100}$

Are these the only fractions that are equivalent to 0.5?

How many fractions can you find?

Compare answers with a partner.

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

4 Some fractions can be converted to have a denominator of 1,000 to find their decimal equivalent.

$$\frac{62}{500} \overset{\times 2}{=} \frac{124}{1000} = 0.124$$

a) $\frac{27}{500} = \frac{54}{1000} = 0.054$

b) $\frac{62}{250} = \frac{248}{1000} = 0.248$

c) $\frac{51}{200} = \frac{255}{1000} = 0.255$

d) $\frac{128}{2,000} = \frac{64}{1000} = 0.064$

5 Convert the fractions to their decimal equivalents.

a) $\frac{1}{5} = 0.2$

$\frac{1}{10} = 0.1$

$\frac{1}{20} = 0.05$

$\frac{1}{40} = 0.025$

b) $\frac{1}{20} = 0.05$

$\frac{2}{20} = 0.1$

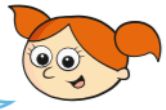
$\frac{3}{20} = 0.15$

$\frac{6}{20} = 0.3$

6 Tommy, Alex and Eva are working out the decimal equivalent of $\frac{60}{200}$

Tommy: You need to convert it to have a denominator of 100 to find the decimal equivalent.

Alex: I disagree. You need to convert it to have a denominator of 1,000



Eva: Both of you are right!

Who do you agree with? Eva

Explain your thinking.

Tommy's method: $\frac{60}{200} = \frac{30}{100} = 0.30 = 0.3$

Alex's method: $\frac{60}{200} = \frac{300}{1,000} = 0.300 = 0.3$

They get the same answer.

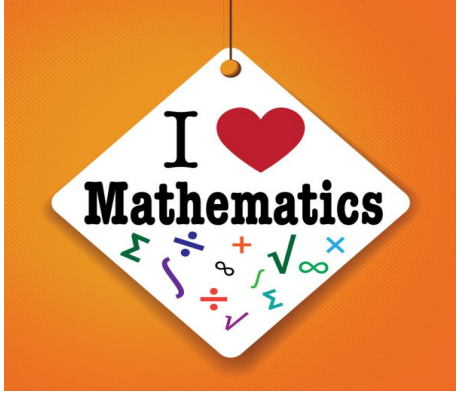
7 0.5 is equivalent to $\frac{1}{2}$, $\frac{5}{10}$, $\frac{50}{100}$

Are these the only fractions that are equivalent to 0.5?

How many fractions can you find?

various answers.

Compare answers with a partner.



Wednesday 3rd March

Fractions as Decimals (2)

Watch the video link and answer the following questions

https://vimeo.com/491970120

Fractions to decimals (2)

1 Fractions can be expressed as divisions.

For example, $\frac{1}{2} = 1 \div 2$

Write the fractions as divisions.

a) $\frac{1}{3} = \square \div \square$

b) $\frac{2}{3} = \square \div \square$

c) $\frac{4}{7} = \square \div \square$

d) $\frac{\square}{\square} = 3 \div 5$

e) $\frac{\square}{7} = 3 \div \square$

f) $\frac{1}{10} = \square \div \square$

2 Use place value counters to find the decimal equivalent of $\frac{2}{5}$

You can draw on the place value chart to help you with exchanging.

$\frac{2}{5} = 2 \div 5 = \square$

Ones	Tenths
1 1	

3 Fractions can be converted to decimals by using the short division method.

For example, $\frac{1}{8} = 1 \div 8$

$$\begin{array}{r} 0.125 \\ 8\overline{)1.^{1}0^{2}0^{4}0} \end{array}$$

$\frac{1}{8} = 0.125$

Use the short division method to find the decimal equivalent of the fractions.

a)

$$\begin{array}{r} . \\ 4\overline{)1.0\,0} \end{array}$$

$\frac{1}{4} = \square$

b)

$$\begin{array}{r} . \\ 5\overline{)4.0} \end{array}$$

$\frac{4}{5} = \square$

c)

$$\begin{array}{r} . \\ 8\overline{)3.0} \end{array}$$

$\frac{3}{8} = \square$

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

Fractions to decimals (2)

1 Fractions can be expressed as divisions.

For example, $\frac{1}{2} = 1 \div 2$

Write the fractions as divisions.

a) $\frac{1}{3} = \boxed{1} \div \boxed{3}$

b) $\frac{2}{3} = \boxed{2} \div \boxed{3}$

c) $\frac{4}{7} = \boxed{4} \div \boxed{7}$

d) $\frac{\boxed{3}}{\boxed{5}} = 3 \div 5$

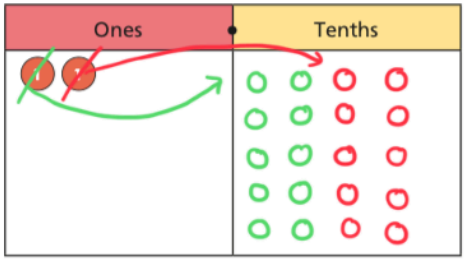
e) $\frac{\boxed{3}}{7} = 3 \div \boxed{7}$

f) $\frac{1}{10} = \boxed{1} \div \boxed{10}$

2 Use place value counters to find the decimal equivalent of $\frac{2}{5}$

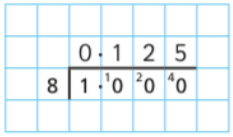
You can draw on the place value chart to help you with exchanging.

$\frac{2}{5} = 2 \div 5 = \boxed{0.4}$



3 Fractions can be converted to decimals by using the short division method.

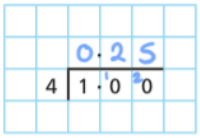
For example, $\frac{1}{8} = 1 \div 8$



$\frac{1}{8} = 0.125$

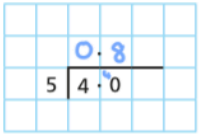
Use the short division method to find the decimal equivalent of the fractions.

a)



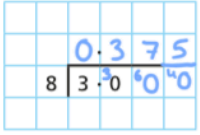
$\frac{1}{4} = \boxed{0.25}$

b)



$\frac{4}{5} = \boxed{0.8}$

c)



$\frac{3}{8} = \boxed{0.375}$

4 Find the decimal equivalents for these fractions.

a) $\frac{7}{8}$ = ☐

c) $\frac{1}{16}$ = ☐

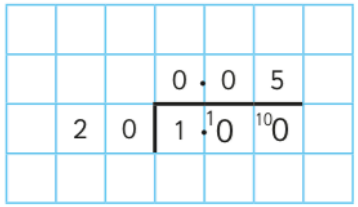
b) $\frac{7}{5}$ = ☐

d) $\frac{9}{16}$ = ☐

5

To find $\frac{19}{20}$ as a decimal, I found $\frac{1}{20}$ as a decimal, then took it away from 1

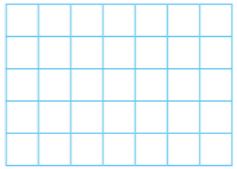
Here is Dora's working out.



1 − 0.05 = 0.95

$\frac{19}{20}$ = 0.95

Use Dora's method to find the decimal equivalent for $\frac{49}{50}$



☐

6

I converted $\frac{1}{2}$ to a decimal and got the answer 2

Jack is incorrect.

Explain the mistake that Jack has made.

7 Filip is thinking of a fraction.

When he converts it to a decimal, it is smaller than 0.5 but greater than 0.4

What fraction could Filip be thinking of?

☐

Are there any other possible answers? Talk to a partner.

8 Use the short division method to find the decimal equivalent of $\frac{1}{3}$

Compare answers with a partner.

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

4 Find the decimal equivalents for these fractions.

a) $\frac{7}{8}$ = 0·875

c) $\frac{1}{16}$ = 0·0625

b) $\frac{7}{5}$ = 1·4

d) $\frac{9}{16}$ = 0·5625

5

To find $\frac{19}{20}$ as a decimal, I found $\frac{1}{20}$ as a decimal, then took it away from 1

Here is Dora's working out.

$$\begin{array}{r} 0.05 \\ 20\overline{)1.^{1}0^{10}0} \end{array}$$

1 − 0.05 = 0.95

$\frac{19}{20}$ = 0.95

Use Dora's method to find the decimal equivalent for $\frac{49}{50}$

$$\begin{array}{r} 0.02 \\ 50\overline{)1.^{1}0^{10}0} \end{array}$$

1 − 0·02 = 0·98

0·98

6

I converted $\frac{1}{2}$ to a decimal and got the answer 2

Jack is incorrect.

Explain the mistake that Jack has made.

He did 2 ÷ 1 when he should have done 1 ÷ 2

7 Filip is thinking of a fraction.

When he converts it to a decimal, it is smaller than 0.5 but greater than 0.4

What fraction could Filip be thinking of?

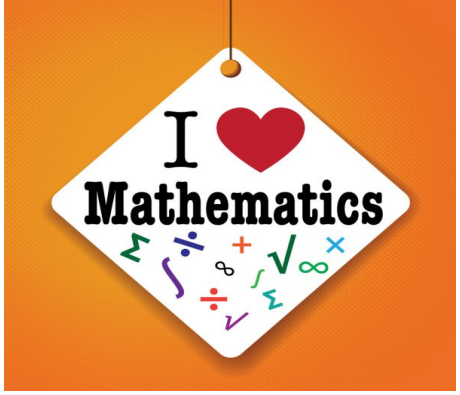
E.g. $\frac{9}{20}$

Are there any other possible answers? Talk to a partner.

8 Use the short division method to find the decimal equivalent of $\frac{1}{3}$

0·33333...

Compare answers with a partner.



Thursday 4th March

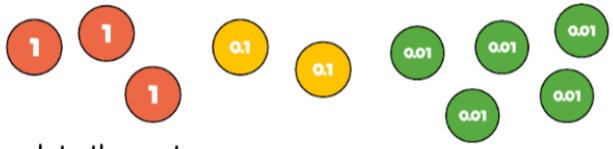
End of Block Test

Year 6

Decimals

Name _____

1 Donna makes a number using some counters.



Complete the sentences

There are _____ ones, _____ tenths and _____ hundredths.

1 mark

Donna has made the number _____

1 mark

2 In the number 32.8 which digit is in the ones place?

_____

In the number 32.8 which digit is in the tenths place?

_____

2 marks

3 What is 1.603 + 5 hundredths

_____

1 mark

4 Filip writes a number in a place value grid.

H	T	O	Tth
		1	9

Filip multiplies his number by 10

Write down his answer in the place value grid below.

H	T	O	Tth

1 mark

Flip multiplies his starting number by 100

Write down his answer in the place value grid.

H	T	O	Tth

1 mark

5 Fill in the missing numbers.

$27 \div 10 =$ ☐ $25.9 \times 10 =$ ☐

$3.65 \times$ ☐ $= 365$

3 marks

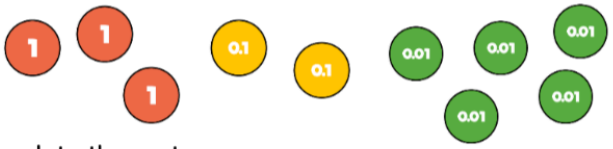
The Answers Are On The Next Slide .....

Year 6

Decimals

Name _____

1 Donna makes a number using some counters.



Complete the sentences

There are 3 ones, 2 tenths and 5 hundredths.

Donna has made the number 3.25

1 mark

1 mark

2 In the number 32.8 which digit is in the ones place?

2

In the number 32.8 which digit is in the tenths place?

8

2 marks

3 What is 1.603 + 5 hundredths

1.653

1 mark

4 Filip writes a number in a place value grid.

H	T	O	Tth
		1	9

Filip multiplies his number by 10

Write down his answer in the place value grid below.

H	T	O	Tth
	1	9	0

1 mark

Flip multiplies his starting number by 100

Write down his answer in the place value grid.

H	T	O	Tth
1	9	0	0

1 mark

5 Fill in the missing numbers.

$27 \div 10 =$ 2.7 $25.9 \times 10 =$ 259

$3.65 \times$ 100 $= 365$

3 marks

6 Tom travels 2.3 miles to school.
Amy travels 4 times further than Tom.
How far does Amy travel?

_____ miles

1 mark

7 What is 6.9 divided by 3

_____

1 mark

8 Match the decimals with the equivalent fraction.

0.25	$\frac{3}{6}$
0.4	$\frac{1}{4}$
0.5	$\frac{2}{5}$

2 marks

9 A pack of pens costs 3 times as much as a single pen.
Together they cost £7.20
How much does a single pen cost?

£ _____

2 marks

10 Lisa says that $\frac{23}{50}$ is less than 0.5
Do you agree with Lisa?
Explain your answer.

1 mark

11 Sally and her friends share 3 chocolate bars.

They each get 0.75 of a chocolate bar.
How many friends did Sally share the chocolate bar with?

_____

1 mark

12 Bargain Busters sell four cans of soup for £3.76
Cost Cutters sell three cans of soup for £2.85
Which shop sells the cheapest soup?
Explain your answer.

2 marks

Circle how confident you feel with decimals.

1 2 3 4 5

Not confident — Very confident

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

6 Tom travels 2.3 miles to school.
Amy travels 4 times further than Tom.
How far does Amy travel?

9.2 miles

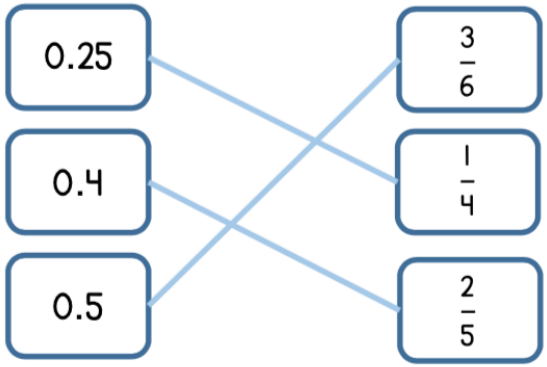
1 mark

7 What is 6.9 divided by 3

2.3

1 mark

8 Match the decimals with the equivalent fraction.



1 mark for 2 correct.

2 marks

9 A pack of pens costs 3 times as much as a single pen.
Together they cost £7.20
How much does a single pen cost?

1 mark for correct method with 1 error.

£ 1.80

2 marks

10 Lisa says that $\frac{23}{50}$ is less than 0.5
Do you agree with Lisa?
Explain your answer.

Yes because 0.5 is equivalent to a half, and $\frac{23}{50}$ is less than a half.

1 mark

11 Sally and her friends share 3 chocolate bars.

They each get 0.75 of a chocolate bar.
How many friends did Sally share the chocolate bar with?

3

1 mark

12 Bargain Busters sell four cans of soup for £3.76
Cost Cutters sell three cans of soup for £2.85
Which shop sells the cheapest soup?
Explain your answer.

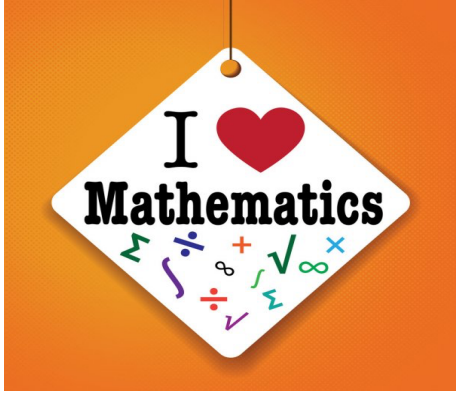
Bargain Busters: 94p per can
Cost Cutters: 95p per can
Bargain Busters is cheaper.
1 mark for working out the correct cost of soup at one shop.

2 marks

Circle how confident you feel with decimals.

1 2 3 4 5

Not confident — Very confident

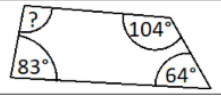
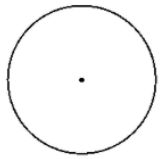
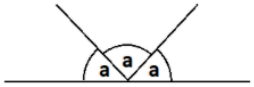
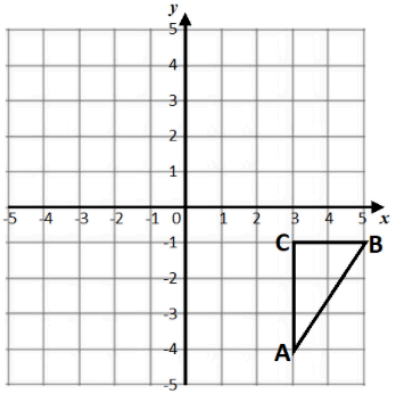
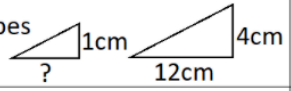


Friday 5th March

Skills Check

Maths Key Skills Stage 6: Skill Check 7

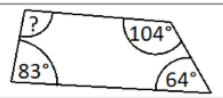
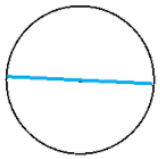
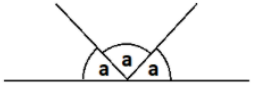
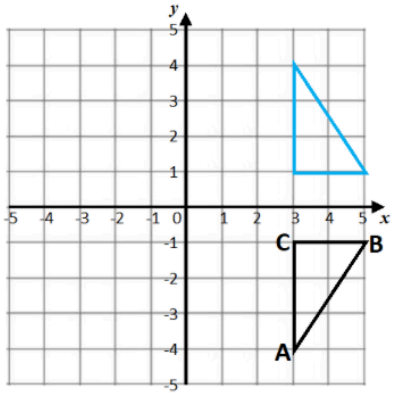
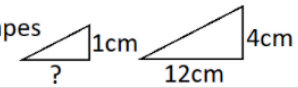
Name: _____ **Date:** _____ **Class/Group:** _____

A: Place Value, Add, Subtract, Multiply and Divide		B: Fractions, Ratio, Proportion and Algebra		C: Geometry, Position and Direction	
1. Write in words: **2,134,005**	*6:1*	11. Simplify this fraction fully: $\frac{9}{36}$	*6:7*	21. Find the missing angle. 	*6:24*
2. What is the value of the **3** in this number? 3,954,682	*6:1*	12. $1\frac{5}{6} + \frac{1}{4} =$	*6:8*	22. On the circle draw a line to label the **diameter**. 	*6:25*
3. Round **8,523,912** to the nearest **ten thousand**.	*6:1*	13. $\frac{2}{8} \div 4 =$	*6:9*		
4. The temperature rises from -7°C to 9°C. How many degrees has it risen?	*6:2*	14. What is the value of the **8** in this number: 64.381	*6:10*	23. Find the value of **a**. 	*6:26*
5. 2,355 x 16	*6:3*	15. Give your answer as a decimal: 43.5 ÷ 6	*6:11*	24. What are the co-ordinates of **A**? 	*6:27*
6. What is the remainder? 3,300 ÷ 19	*6:3*	16. Write this fraction as a **decimal** and a **percentage**. $\frac{3}{5}$	*6:12*		
7. Write **two common factors** of 30 and 45.	*6:4*	17. Find **20%** of 180.	*6:13*		
8. There are **four prime numbers** between 10 and 20. What are they?	*6:4*	18. These shapes are **similar**. 	*6:14*		
9. 85 - 8 x 7	*6:5*	19. 1 bag has **s** sweets. I get 2 bags. Write an expression for no. of sweets.	*6:15*		
10. What is my change if I buy as many £5.98 footballs as I can with £30?	*6:6*	20. Which two numbers add together to make 25 and have a difference of 1?	*6:17*	25. **Reflect** triangle **ABC** in the **x-axis**.	*6:28*
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 7 **Answers**

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

A: Place Value, Add, Subtract, Multiply and Divide		B: Fractions, Ratio, Proportion and Algebra		C: Geometry, Position and Direction	
1. Write in words: **2,134,005**	6:1 **Two million, one hundred and thirty four thousand and five**	11. Simplify this fraction fully: $\frac{9}{36}$	6:7 $\frac{1}{4}$	21. Find the missing angle. 	6:24 **109°**
2. What is the value of the **3** in this number? 3,954,682	6:1 **3,000,000 (million)**	12. $1\frac{5}{6} + \frac{1}{4} =$	6:8 $2\frac{1}{12}$	22. On the circle draw a line to label the **diameter.** 	6:25 **Line drawn**
3. Round **8,523,912** to the nearest **ten thousand**.	6:1 **8,520,000**	13. $\frac{2}{8} \div 4 =$	6:9 $\frac{1}{16}$		
4. The temperature rises from -7°C to 9°C. How many degrees has it risen?	6:2 **16°C**	14. What is the value of the **8** in this number: 64.381	6:10 $\frac{8}{100}$	23. Find the value of **a**. 	6:26 **60°**
5. 2,355 x 16	6:3 **37,680**	15. Give your answer as a decimal: 43.5 ÷ 6	6:11 **7.25**	24. What are the co-ordinates of **A**? 	6:27 **(3, -4)**
6. What is the remainder? 3,300 ÷ 19	6:3 **13**	16. Write this fraction as a **decimal** and a **percentage**. $\frac{3}{5}$	6:12 **0.6, 60%**		
7. Write **two common factors** of 30 and 45.	6:4 **1, 5, 15**	17. Find **20%** of 180.	6:13 **36**		
8. There are **four prime numbers** between 10 and 20. What are they?	6:4 **11, 13, 17, 19**	18. These shapes are **similar**. 	6:14 **3cm**		
9. 85 - 8 x 7	6:5 **29**	19. 1 bag has **s** sweets. I get 2 bags. Write an expression for no. of sweets.	6:15 **2 x s (or 2s)**		
10. What is my change if I buy as many £5.98 footballs as I can with £30?	6:6 **10p**	20. Which two numbers add together to make 25 and have a difference of 1?	6:17 **12 and 13**	25. **Reflect** triangle **ABC** in the **x-axis**.	6:28 **Shape drawn**
Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	