

Decimals up to 2 d.p.

- 1 What number is represented on the place value chart?

Ones	Tenths	Hundredths
	0.1 0.1	0.01 0.01 0.01
0	2	3

Complete the sentences.

There are ones, tenths and hundredths.

The number is .

- 2 Represent these numbers on a place value chart.

Complete the sentences.

- a) 0.56

There are ones, tenths and hundredths.

- b) 0.08

There are ones, tenths and hundredths.

- c) 1.48

There is one, tenths and hundredths.

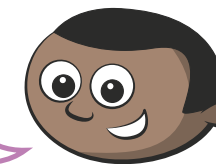
- d) 2.07

There are ones, tenths and hundredths.



- 3 Mo is thinking about tenths and hundredths.

In the number 2.49
the digit 4 represents
4 tenths or 0.4



What is the value of the digit 4 in each of these numbers?

a) 14.8 _____ d) 42.03 _____

b) 13.74 _____ e) 106.48 _____

c) 8.04 _____ f) 176.4 _____

- 4 a) Circle the number that has 5 in the tenths position.

53 5.3 0.53 0.35

- b) Write three numbers that have 3 in the hundredths position.

- 5 Complete the calculations.

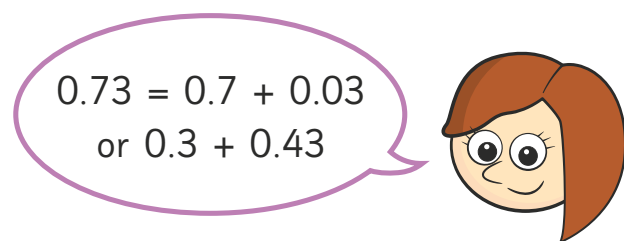
a) $0.64 = 0.6 + \boxed{}$

c) $0.3 + 0.05 = \boxed{}$

b) $0.53 = 0.5 + \boxed{}$

d) $0.06 + 0.8 = \boxed{}$

- 6 Rosie is finding different ways to partition 0.73

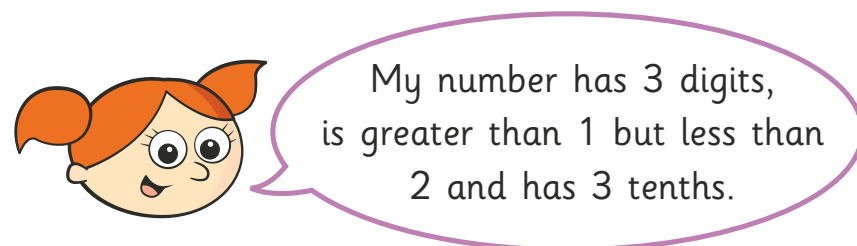


Ones	Tenths	Hundredths
0	7	3

In what other ways can 0.73 be partitioned?

List as many ways as you can below.

- 7 Alex is thinking of a number.



- a) What number could Alex be thinking of?

Talk about it with a partner.

- b) Write all the possible numbers Alex could be thinking of.

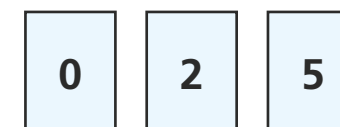
- c) Write another clue that would mean Alex's number is 1.34



- 8 Match the words to the numerals.

5 ones, 6 tenths and 5 hundredths	0.56
5 tenths and 6 hundredths	60.05
5 ones, 5 tenths and 6 hundredths	5.56
6 tens and 5 hundredths	5.65

- 9 Annie has three digit cards.



Are the statements true or false? Explain your answers.

- a) The largest number Annie can make is 5.02

- b) The smallest number Annie can make is 0.25

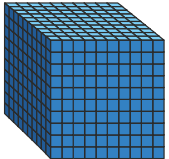
- c) Annie can make six different numbers.

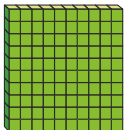


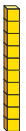
Understand thousandths



- 1 Tommy is using base 10 to represent decimals.

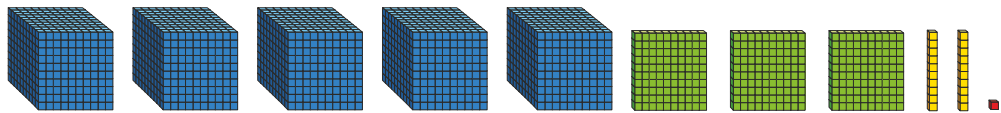
He uses  to represent 1 whole.

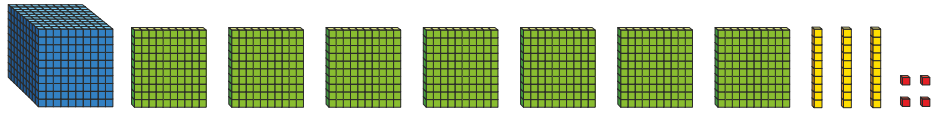
He uses  to represent $\frac{1}{10}$ or 0.1

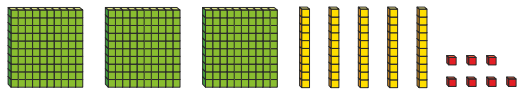
He uses  to represent $\frac{1}{100}$ or 0.01

He uses  to represent $\frac{1}{1000}$ or 0.001

What decimals are represented?

a) 

b) 

c) 

- 2 a) Represent each number using base 10

0.512

1.352

2.003

- b) Use your representations to help you complete the statements.

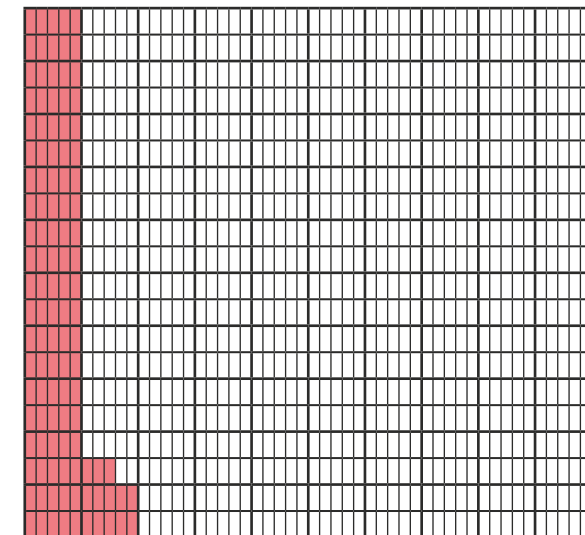
$$0.512 = 0.5 + 0.01 + \boxed{}$$

$$1.352 = 1 + \boxed{} + \boxed{} + \boxed{}$$

$$2.003 = \underline{\hspace{2cm}}$$

- 3 Here is a thousand square.

Part of the square has been coloured.



- a) Why do you think it is called a thousand square?

- b) What fraction of the square has been coloured?

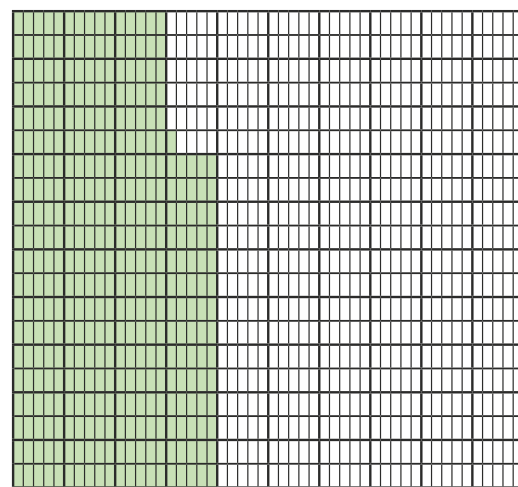
$\frac{\boxed{}}{1000}$

- c) Write the fraction as a decimal.

- 4 What fraction of each square has been shaded?

Write each number as a fraction and as a decimal.

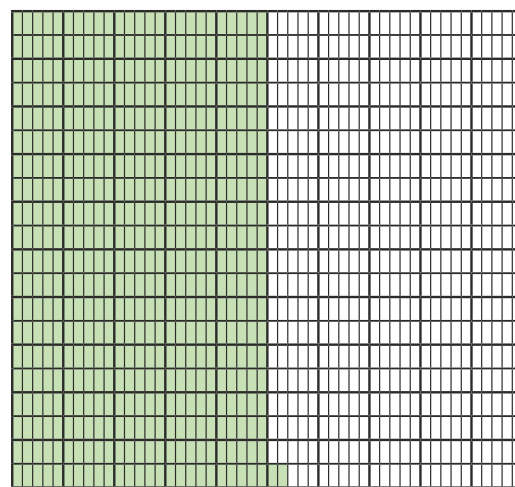
a)



fraction =

decimal =

b)

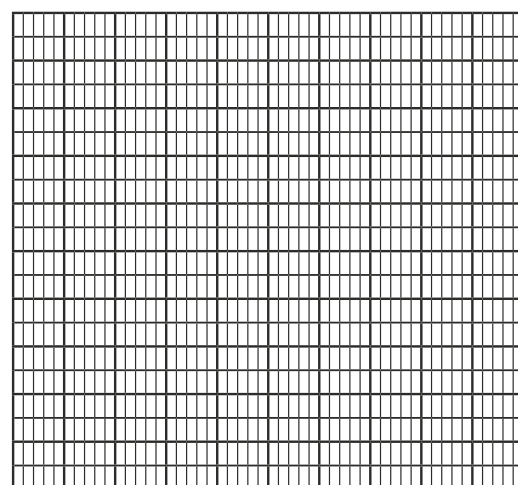


fraction =

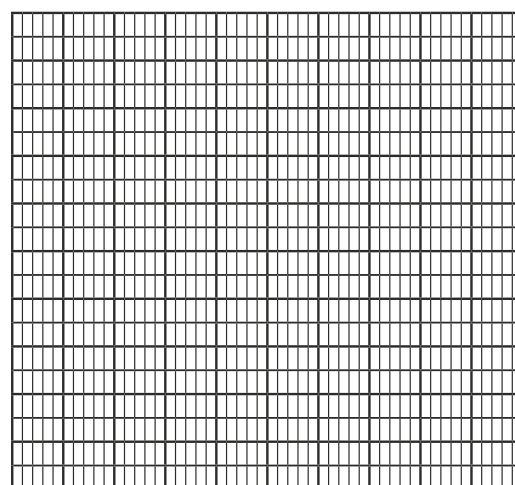
decimal =

- 5 Colour the grids to represent the fraction and decimal.

a) $\frac{73}{1000}$



b) 0.302



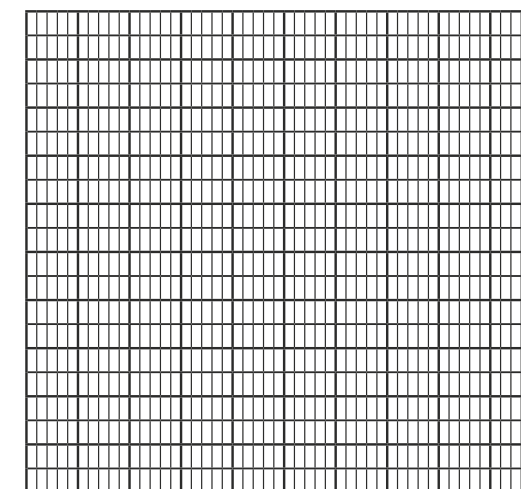
- 6 Represent these numbers on a place value chart.

a) 1.372

b) 0.091

c) 3.542

- 7 Show that $\frac{400}{1000}$ is the same as 0.4



- 8 Write the numbers represented by the place value charts.

a)

Ones	Tenths	Hundredths	Thousandths
1 1 1 1	0.1 0.1	0.01 0.01 0.01 0.01 0.01 0.01 0.01	0.001 0.001 0.001 0.001 0.001 0.001

b)

Ones	Tenths	Hundredths	Thousandths
	0.1 0.1 0.1 0.1 0.1		0.001 0.001 0.001 0.001





T	O	Tth	Hth	Thth

T	O	Tth	Hth	Thth

T	O	Tth	Hth	Thth

T	O	Tth	Hth	Thth

O	Tth	Hth	Thth
● ●	● ●	● ●	● ●
●	●	● ●	● ●
			●

There are ones.

There are tenths.

There are hundredths.

There are thousandths.

The number in digits is

a) 3.65 _____

b) 0.093 _____

c) 18.31 _____

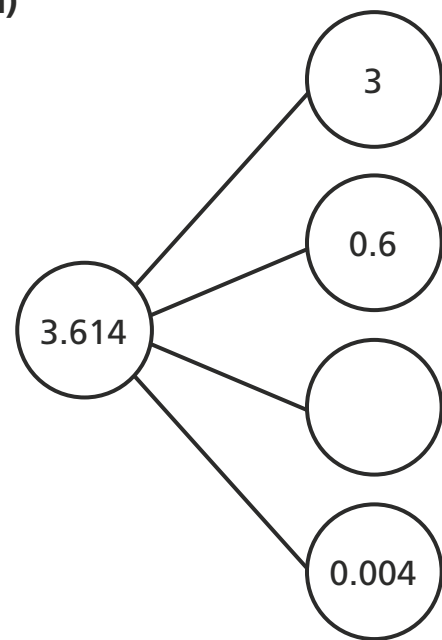
d) 72.439 _____

e) 32.701 _____

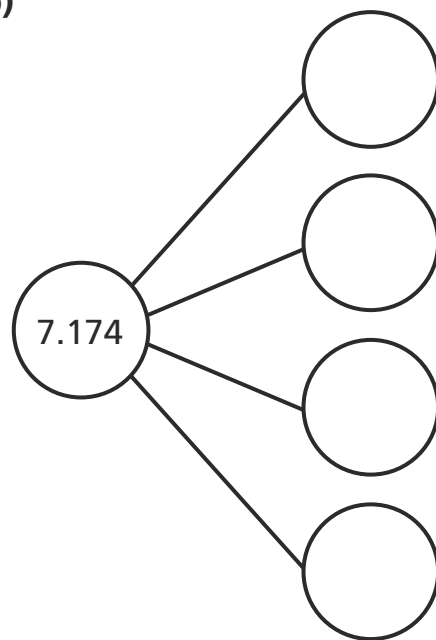
f) 19.03 _____

4 Complete the part-whole models.

a)



b)



5 Complete the number sentences.

a) $17.134 = 10 + 7 + 0.1 + \boxed{} + 0.004$

b) $94.077 = 90 + 4 + 0.07 + \boxed{}$

c) $\boxed{} = 30 + 4 + 0.07 + 0.009$

6 Complete the number sentences.

$1.456 = 1 + 0.4 + \boxed{} + 0.006$

$1.456 = 1 + 0.3 + \boxed{} + 0.006$

$1.456 = 1 + 0.2 + \boxed{} + 0.006$

$1.456 = 1 + \boxed{} + 0.006$

7 Mo and Annie have represented 0.121 on their place value charts.

Mo's chart

O	Tth	Hth	Thth
	●	●●	●

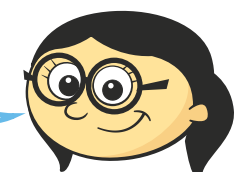
Annie's chart

O	Tth	Hth	Thth
		●●●●●●●●	●



Mo

Only my grid shows 0.121



Annie

Both our grids show 0.121

Who do you agree with? _____

Explain why.

Multiply 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) $2.3 \times 10 =$

When the number is multiplied by 10 the counters move place to the left.

b) $2.3 \times 100 =$

When the number is multiplied by 100 the counters move places to the left.

c) $2.3 \times 1,000 =$

When the number is multiplied by 1,000 the counters move places to the left.

2 Complete the diagram.



3 a) Draw counters on the place value charts to represent each calculation.

4.4×1

Th	H	T	O	Tth	Hth

4.4×10

Th	H	T	O	Tth	Hth

4.4×100

Th	H	T	O	Tth	Hth

$4.4 \times 1,000$

Th	H	T	O	Tth	Hth

b) Complete the calculations.

$4.4 \times 1 =$

$4.4 \times 10 =$

$4.4 \times 100 =$

$4.4 \times 1,000 =$

What do you notice?



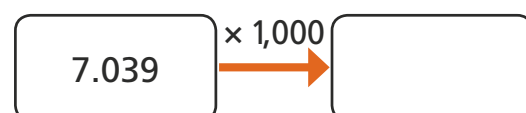
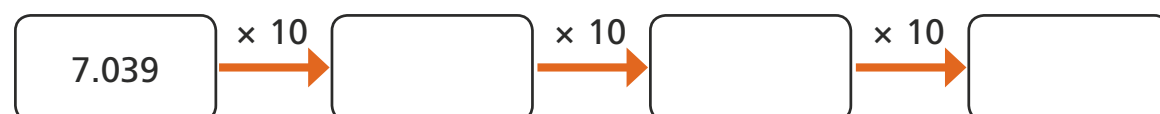
4 Complete the calculations.

a) $13.44 \times 10 =$ d) $4.4 \times$ $= 4,400$

b) $41.4 \times 100 =$ e) $= 1.03 \times 100$

c) $0.415 \times 1,000 =$ f) $30.44 =$ $\times 10$

5 Complete the diagrams.



What do you notice? Why does this happen?

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

$1.4 \times 10 \times 10 \times 10$ $1.4 \times 1,000$

$1.4 \times 10 \times 100$ $1.4 \times 1,000$

$1.4 \times 10 \times 10$ $1.4 \times 1,000$

$1.4 \times 10 \times 2$ 1.4×100

7 Kim is calculating 14.3×200
She writes this as her answer.

$$14.3 \times 200 = 28.600$$

Explain Kim's mistake.

8 Use the cards to complete the calculation.
You can use each card more than once.

How many ways is it possible to complete this calculation?

Talk about it with a partner.



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) $140 \div 10 =$

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

b) $140 \div 100 =$

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

c) $140 \div 1,000 =$

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

2 Complete the diagram.



3 a) Draw counters to represent the calculations.

$123 \div 1$

H	T	O	Tth	Hth	Thth

$123 \div 10$

H	T	O	Tth	Hth	Thth

$123 \div 100$

H	T	O	Tth	Hth	Thth

$123 \div 1,000$

H	T	O	Tth	Hth	Thth

b) Complete the calculations.

$123 \div 1 =$

$123 \div 10 =$

$123 \div 100 =$

$123 \div 1,000 =$

What do you notice?





4 Complete the calculations.

a) $16 \div 10 =$

d) $332 \div$ $= 0.332$

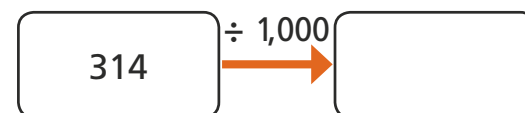
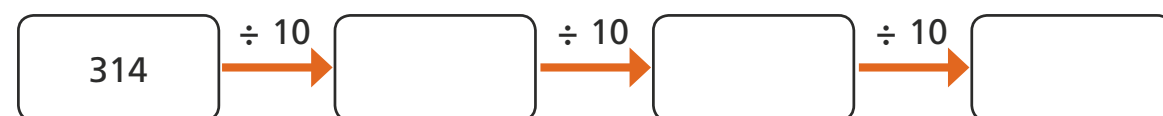
b) $43.4 \div 100 =$

e) $2.4 \div 200 =$

c) $614 \div 1,000 =$

f) $5.09 =$ $\div 20$

5 Complete the diagrams.



What do you notice? Why does this happen?

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

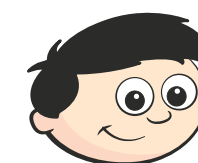
$5,400 \div 10 \div 10 \div 10$ $5,400 \div 1,000$

$60 \div 100 \div 10$ $600 \div 100$

$5.7 \div 10$ $57 \div 100$

$5,601 \div 1,000$ $5.601 \div 10$

7 Dexter is solving the calculation $5,400 \div 100$

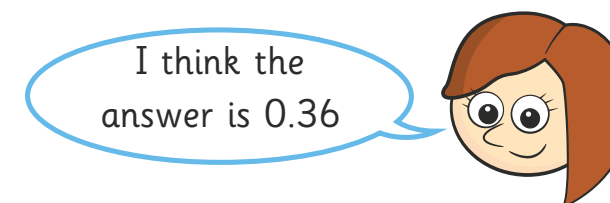


I think the answer is 54.00

Is Dexter correct? _____

Explain your reasoning.

8 Rosie is solving the calculation $3,600 \div 200$



I think the answer is 0.36

Is Rosie correct? _____

Explain your reasoning.



Multiply decimals by integers



1 Use place value counters to solve the calculations.

a) $3.2 \times 3 =$

Ones	Tenths
1 1 1	0.1 0.1
1 1 1	0.1 0.1
1 1 1	0.1 0.1

b) $4.6 \times 2 =$

Ones	Tenths
1 1 1 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

2 Solve the multiplication. Draw your answer.

$12.2 \times 3 =$

Tens	Ones	Tenths

3 Nijah uses long multiplication to solve 3.72×3

		3	.	7	2
	x				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
	x				4

b)

		2	.	0	9
	x				6

4 Work out the multiplications.

a) $5.2 \times 4 =$

d) $= 2.34 \times 3$

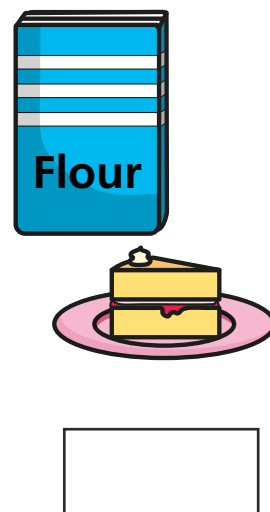
b) $14.3 \times 3 =$

e) $11.505 \times 4 =$

c) $6 \times 9.1 =$

f) $9.602 \times 6 =$

- 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) $7.2 \times 2 =$

$7.2 \times 4 =$

$14.4 \times 4 =$

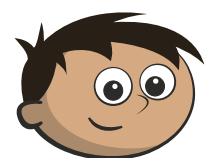
$7.2 \times 8 =$

b) $= 3.45 \times 3$

$= 34.5 \times 3$

$= 345 \times 3$

- 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.

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

	.		×	
---	---	---	---	---

- 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.



Divide decimals by integers



1 Use place value counters to work out the divisions.

a) $8.4 \div 4 =$

Ones	Tenths
1 1	0.1 0.1
1 1	0.1 0.1
1 1	
1 1	

b) $12.3 \div 3 =$

Tens	Ones	Tenths
10	1 1	0.1 0.1
		0.1

2 Work out the division. Draw your answer.

$16.4 \div 4 =$

Tens	Ones	Tenths

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

		0	2	2	
	6	1	3	2	

Use short division to work out the calculations.

a)

	7	2	2	4	

b)

	8	1	8	4	8

4 Work out the divisions.

a) $25.6 \div 8 =$

d) $= 19.45 \div 5$

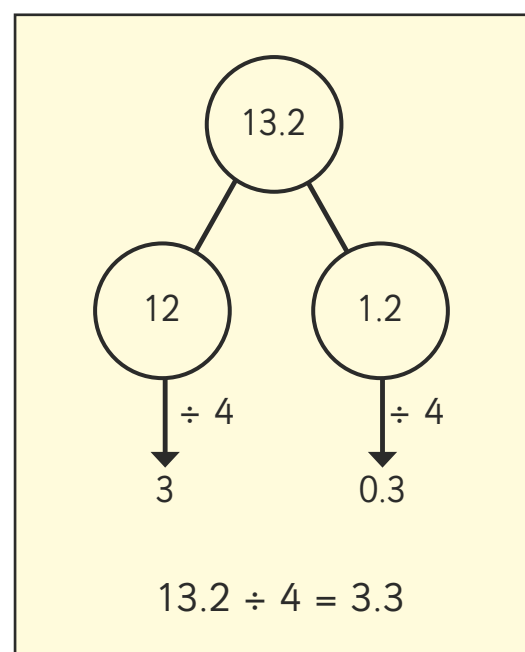
b) $14.8 \div 4 =$

e) $202.35 \div 3 =$

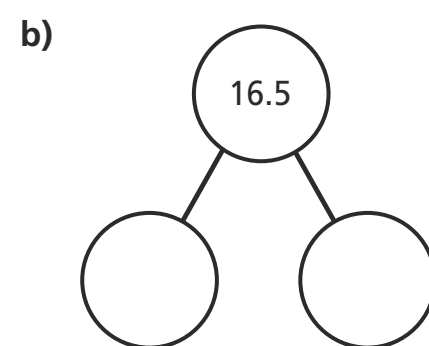
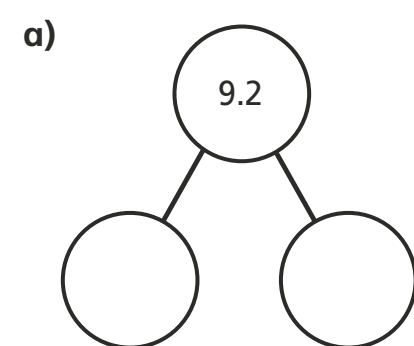
c) $18.48 \div 6 =$

f) $105.12 \div 9 =$

- 5 Esther solves $13.2 \div 4$ by partitioning 13.2 into two numbers that are easier to divide.



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



$$9.2 \div 4 = \boxed{}$$

$$16.5 \div 3 = \boxed{}$$

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



- 6 Work out the divisions.

a) $9.64 \div 4 = \boxed{}$

$$96.4 \div 4 = \boxed{}$$

$$0.964 \div 4 = \boxed{}$$

$$9.64 \div 8 = \boxed{}$$

b) $19.44 \div 9 = \boxed{}$

$$19.53 \div 9 = \boxed{}$$

$$19.62 \div 9 = \boxed{}$$

- 7 Fill in the missing numbers.

$$3.6 \div 4 = 36 \div \boxed{}$$

$$3.6 \div 4 = \boxed{} \div 8$$

- 8 Complete the calculation.

$$8.4 \div \boxed{} = 4.2 \div \boxed{}$$

How many different solutions can you find?

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



Division to solve problems



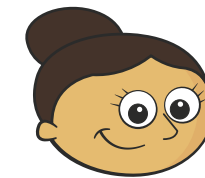
- 1 There are 1,360 children in a school.
A quarter of the children walk to school.
How many children walk to school?

- 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?



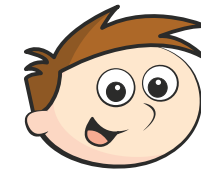
- 3 Tom is running a 6-kilometre race.
He has run one-third of the race so far.
How many more kilometres does Tom have left to run?

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



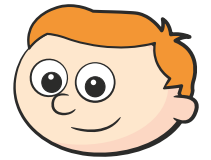
Dora

My paper chain
is 1.1 m long.



Teddy

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



Ron

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

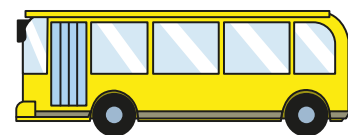
- a) How long is Ron's paper chain?

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

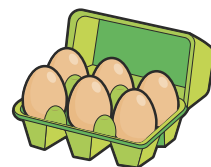
- 5 A water bottle holds 2 litres.
A leak in the bottle means 25 ml drips out each day.
How many days will it take until the bottle is empty?

 days

- 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?

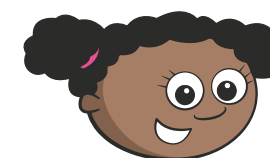


- 7 Shop A sells 5 tins of paint for £23.40
Shop B sells 3 tins of the same paint for £14.01



Which shop should Aisha buy her paint from? _____
Explain your reasoning.

- 8 $146 \div 5 = 29$ remainder 1
 $117 \div 4 = 29$ remainder 1



This means that
 $117 \div 4 = 146 \div 5$

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.



Decimals as fractions

1 Complete the sentences.

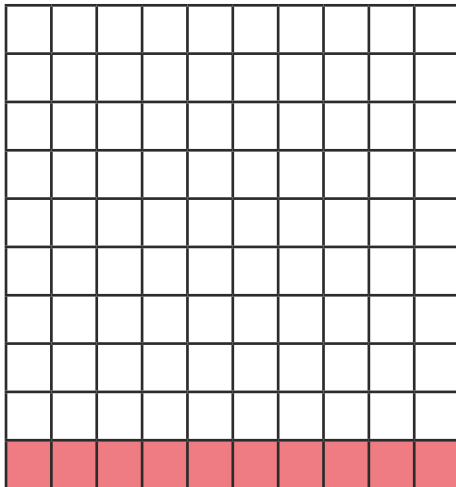
a)

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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The whole has been divided into equal parts.

Each part is worth

This is equivalent to

b) 

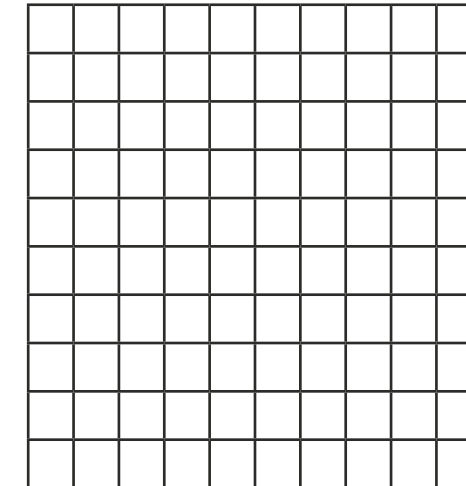
The whole has been divided into equal parts.

Each part is worth

parts out of are shaded.

This is equivalent to

2 a) Shade 0.17 of the hundred square.



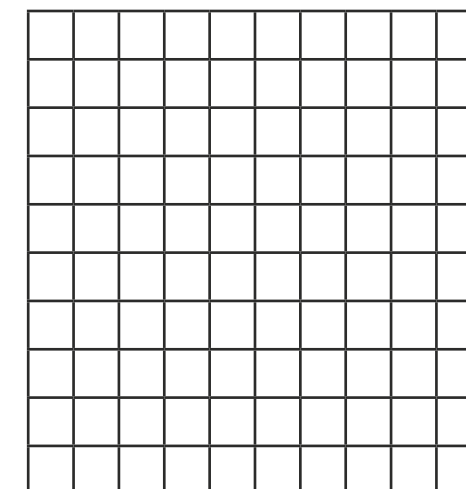
Complete the sentence.

parts out of are shaded.

Write 0.17 as a fraction.

0.17 =

b) Shade 0.2 of the hundred square.



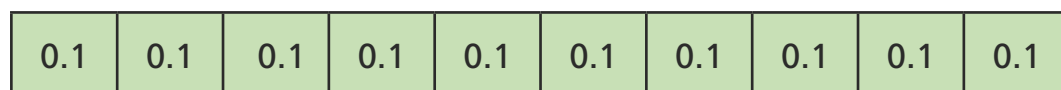
Complete the sentence.

parts out of are shaded.

Write 0.2 as a fraction in its simplest form.

0.2 =

3



Use the bar models to fill in the missing numbers.

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

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

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

4

Fill in the missing numbers.

$$\text{a) } 0.54 = \frac{\boxed{}}{100} = \frac{\boxed{}}{50}$$

$$\text{b) } 0.6 = \frac{\boxed{}}{10} = \frac{\boxed{}}{5}$$

$$\text{c) } 0.3 = \frac{\boxed{}}{10} = \frac{\boxed{}}{100}$$

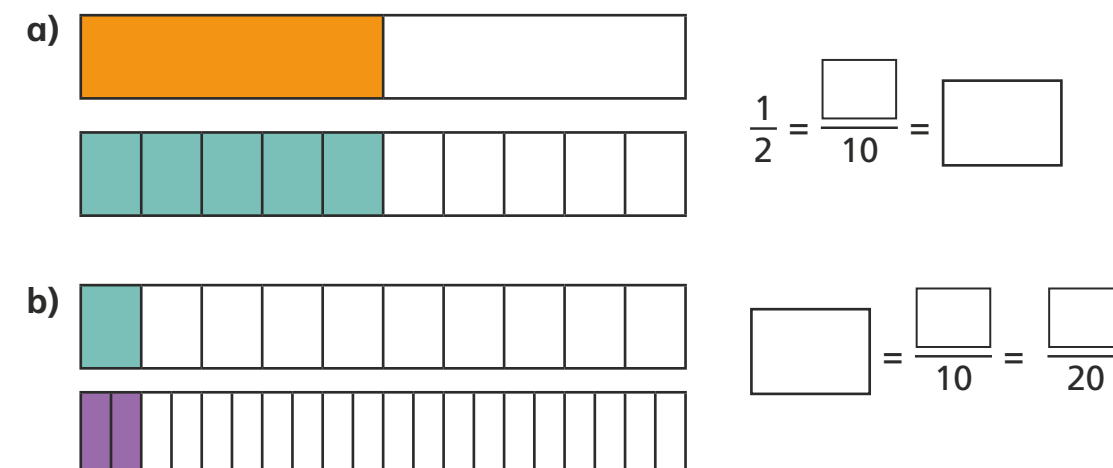
$$\text{d) } \boxed{} = \frac{9}{100}$$

$$\text{e) } \boxed{} = \frac{9}{10}$$

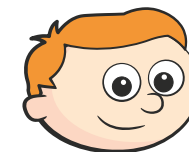
$$\text{f) } \frac{21}{50} = \frac{\boxed{}}{100} = \boxed{}$$

5

Use the bar models to fill in the missing numbers.



6



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

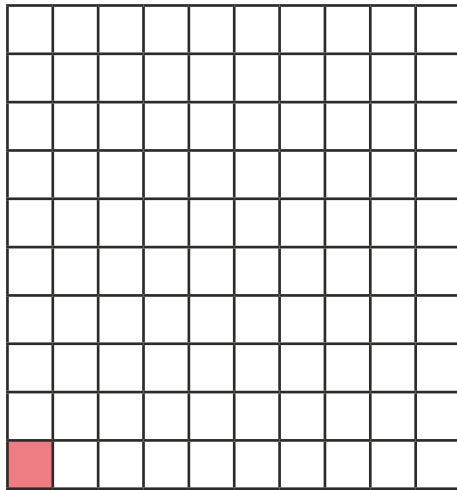
Draw a diagram to show that Ron is wrong.



Fractions to decimals (1)

1 Complete the sentences.

a)

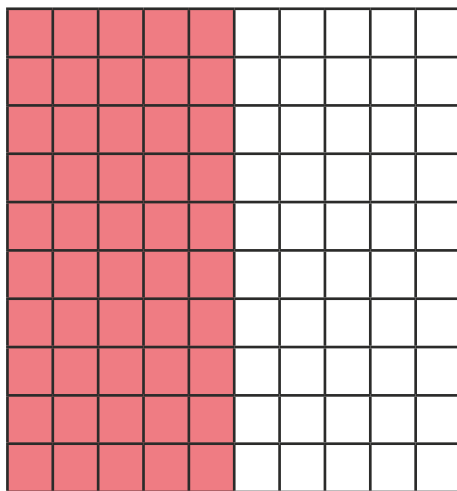


Each square represents $\frac{\square}{100}$

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

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

b)

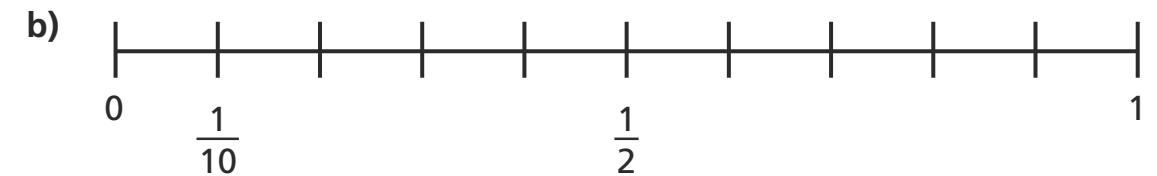
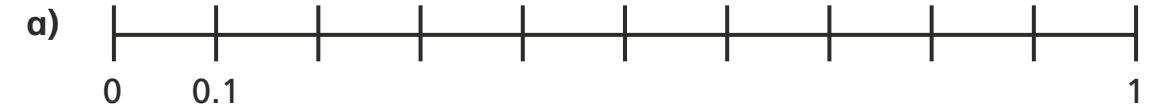


$\frac{\square}{100}$ of the whole square is shaded.

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

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

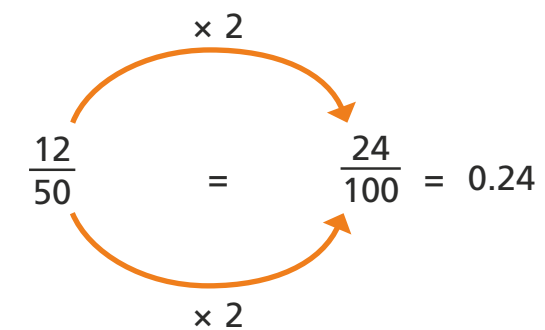
2



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

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

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

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

- 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) $\frac{27}{500} = \frac{\boxed{}}{1000} = \boxed{}$

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

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

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

- 5 Convert the fractions to their decimal equivalents.

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

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

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

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

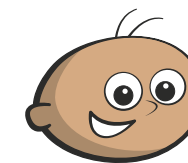
$\frac{1}{20} = \boxed{}$

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

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

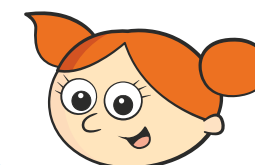
$\frac{6}{20} = \boxed{}$

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



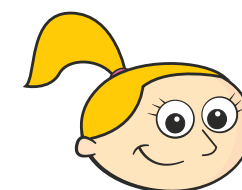
Tommy

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? _____

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.



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

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

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

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

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

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

		0	1	2	5	
	8	1	0	2	0	

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

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

a)

			.			
	4	1	0	0		

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

b)

			.			
	5	4	0			

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

c)

			.			
	8	3	0			

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



4 Find the decimal equivalents for these fractions.

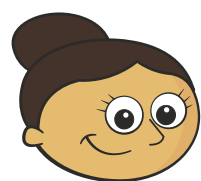
a) $\frac{7}{8} =$

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.

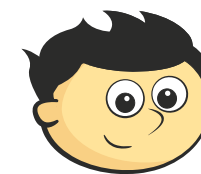
			0	.	0	5
2	0		1	.	0	¹⁰ 0

$$1 - 0.05 = 0.95$$

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

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.

Decimals up to 2 d.p.

- 1 What number is represented on the place value chart?

Ones	Tenths	Hundredths
	0.1 0.1	0.01 0.01 0.01
0	2	3

Complete the sentences.

There are ones, tenths and hundredths.

The number is .

- 2 Represent these numbers on a place value chart.

Complete the sentences.

- a) 0.56

There are ones, tenths and hundredths.

- b) 0.08

There are ones, tenths and hundredths.

- c) 1.48

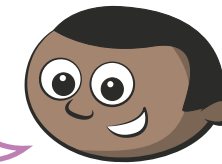
There are ones, tenths and hundredths.

- d) 2.07

There are ones, tenths and hundredths.

- 3 Mo is thinking about tenths and hundredths.

In the number 2.49
the digit 4 represents
4 tenths or 0.4



What is the value of the digit 4 in each of these numbers?

a) 14.8 4 ones d) 42.03 4 tens

b) 13.74 4 hundredths e) 106.48 4 tenths

c) 8.04 4 hundredths f) 176.4 4 tenths

- 4 a) Circle the number that has 5 in the tenths position.

53 5.3 0.53 0.35

- b) Write three numbers that have 3 in the hundredths position.

eg. 0.03 4.53 72.03

- 5 Complete the calculations.

a) $0.64 = 0.6 +$

c) $0.3 + 0.05 =$

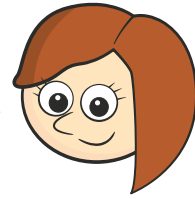
b) $0.53 = 0.5 +$

d) $0.06 + 0.8 =$



- 6 Rosie is finding different ways to partition 0.73

0.73 = 0.7 + 0.03
or 0.3 + 0.43



Ones	Tenths	Hundredths
0	7	3

In what other ways can 0.73 be partitioned?

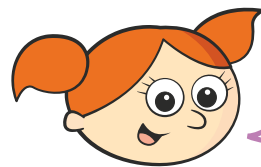
List as many ways as you can below.

0.1 + 0.63 0.5 + 0.23

0.2 + 0.53 0.6 + 0.13

0.4 + 0.33

- 7 Alex is thinking of a number.



My number has 3 digits,
is greater than 1 but less than
2 and has 3 tenths.

- a) What number could Alex be thinking of?

Talk about it with a partner.

- b) Write all the possible numbers Alex could be thinking of.

1.30, 1.31, 1.32, 1.33, 1.34, 1.35, 1.36, 1.37,
1.38, 1.39

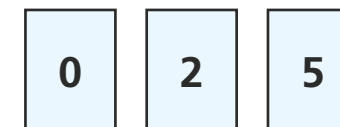
- c) Write another clue that would mean Alex's number is 1.34

It has 4 hundredths.

- 8 Match the words to the numerals.

5 ones, 6 tenths and 5 hundredths	0.56
5 tenths and 6 hundredths	60.05
5 ones, 5 tenths and 6 hundredths	5.56
6 tens and 5 hundredths	5.65

- 9 Annie has three digit cards.



Are the statements true or false? Explain your answers.

- a) The largest number Annie can make is 5.02

False 5.20 > 5.02

- b) The smallest number Annie can make is 0.25

True

- c) Annie can make six different numbers.

0.25 0.52 2.05 2.50 5.02 5.20

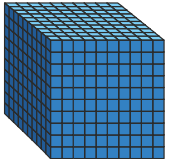
True

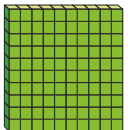


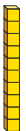
Understand thousandths



1 Tommy is using base 10 to represent decimals.

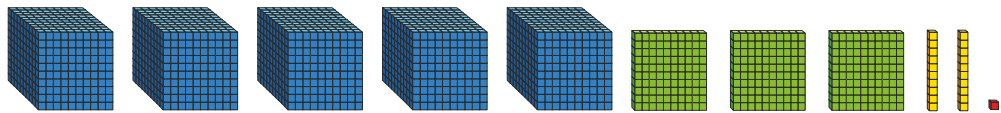
He uses  to represent 1 whole.

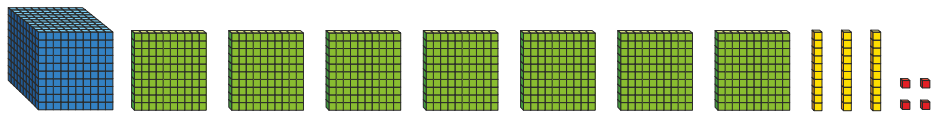
He uses  to represent $\frac{1}{10}$ or 0.1

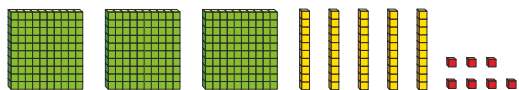
He uses  to represent $\frac{1}{100}$ or 0.01

He uses  to represent $\frac{1}{1000}$ or 0.001

What decimals are represented?

a) 

b) 

c) 

2 a) Represent each number using base 10

0.512

1.352

2.003

b) Use your representations to help you complete the statements.

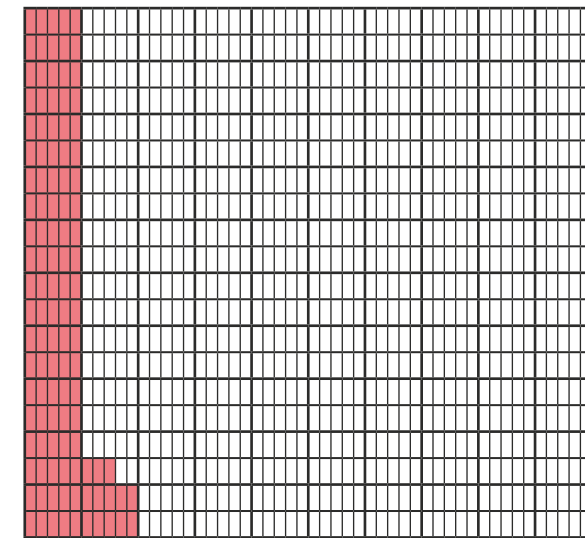
$$0.512 = 0.5 + 0.01 + \boxed{}$$

$$1.352 = 1 + \boxed{} + \boxed{} + \boxed{}$$

$$2.003 = \underline{\hspace{2cm}}$$

3 Here is a thousand square.

Part of the square has been coloured.



a) Why do you think it is called a thousand square?

b) What fraction of the square has been coloured?

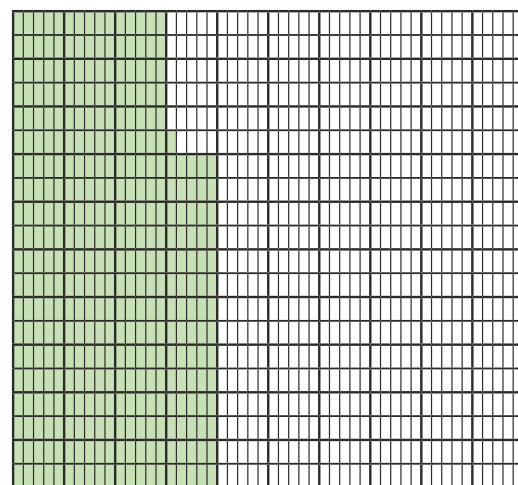
$\frac{\boxed{}}{1000}$

c) Write the fraction as a decimal.

- 4 What fraction of each square has been shaded?

Write each number as a fraction and as a decimal.

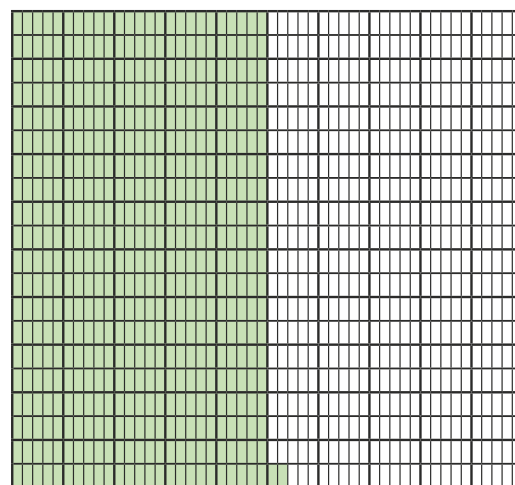
a)



fraction = $\frac{371}{1000}$

decimal = 0.371

b)

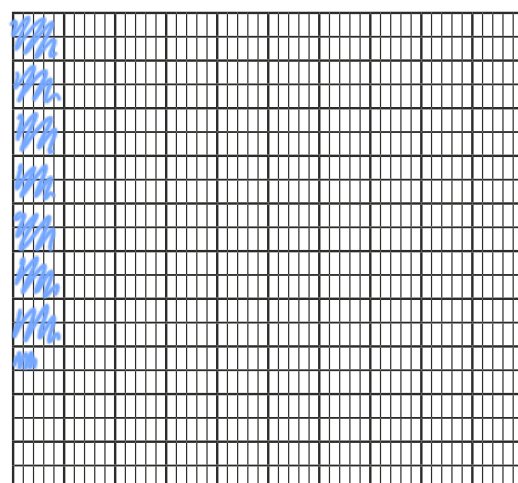


fraction = $\frac{502}{1000}$

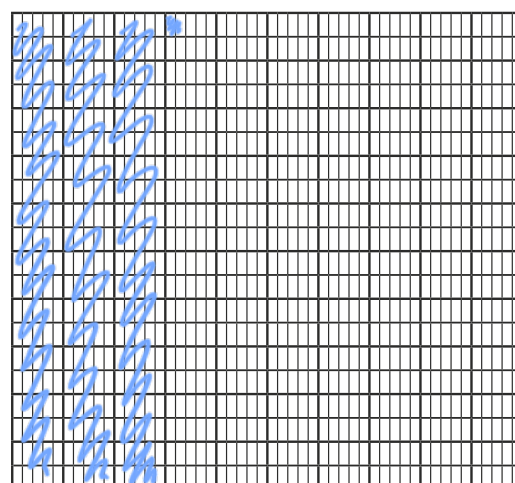
decimal = 0.502

- 5 Colour the grids to represent the fraction and decimal.

a) $\frac{73}{1000}$



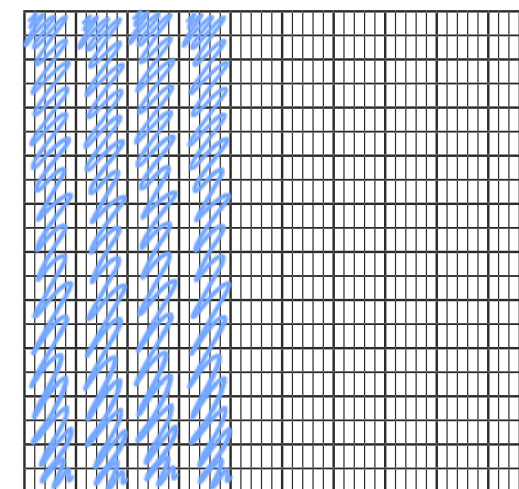
b) 0.302



- 6 Represent these numbers on a place value chart.

a) 1.372 b) 0.091 c) 3.542

- 7 Show that $\frac{400}{1000}$ is the same as 0.4



- 8 Write the numbers represented by the place value charts.

a)

Ones	Tenths	Hundredths	Thousandths
1 1 1 1	0.1 0.1	0.01 0.01 0.01 0.01 0.01 0.01 0.01	0.001 0.001 0.001 0.001 0.001 0.001

4.276

b)

Ones	Tenths	Hundredths	Thousandths
	0.1 0.1 0.1 0.1 0.1		0.001 0.001 0.001 0.001

0.504



Three decimal places



- 1 Use place value counters to make the numbers.
Draw your answers.

a) 1.343

T	O	Tth	Hth	Thth
	1	3	4	3

b) 16.052

T	O	Tth	Hth	Thth
1	0		5	2

c) 7.001

T	O	Tth	Hth	Thth
7	0			1

d) 70.01

T	O	Tth	Hth	Thth
7	0		0	1

- 2 Complete the sentences.

O	Tth	Hth	Thth
3	2	4	5

There are 3 ones.

There are 2 tenths.

There are 4 hundredths.

There are 5 thousandths.

The number in digits is 3.245

- 3 Write the value of the 3 in each number.

a) 3.65 3 ones

b) 0.093 3 thousandths

c) 18.31 3 tenths

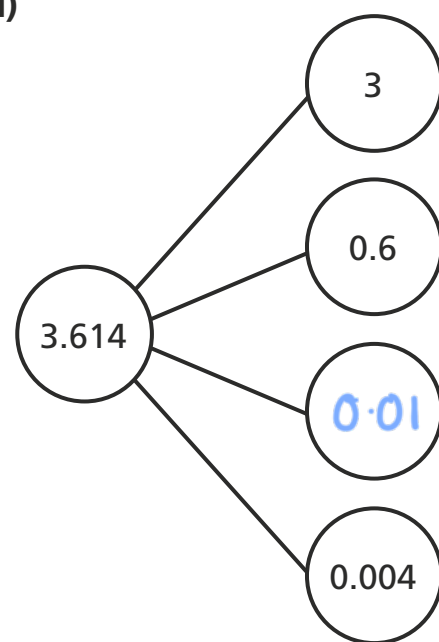
d) 72.439 3 hundredths

e) 32.701 3 tens

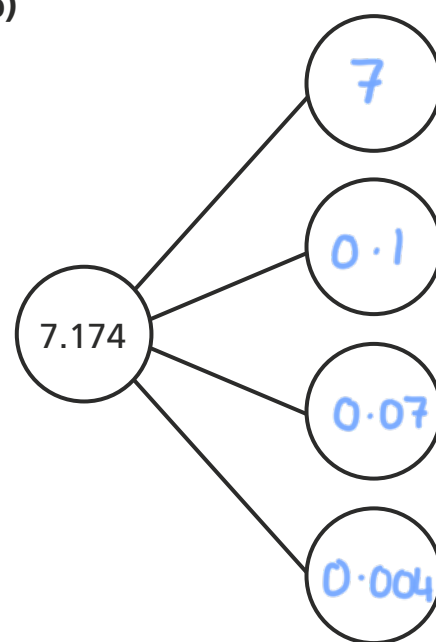
f) 19.03 3 hundredths

4 Complete the part-whole models.

a)



b)



5 Complete the number sentences.

a) $17.134 = 10 + 7 + 0.1 + \boxed{0.03} + 0.004$

b) $94.077 = 90 + 4 + 0.07 + \boxed{0.007}$

c) $\boxed{34.079} = 30 + 4 + 0.07 + 0.009$

6 Complete the number sentences.

$1.456 = 1 + 0.4 + \boxed{0.05} + 0.006$

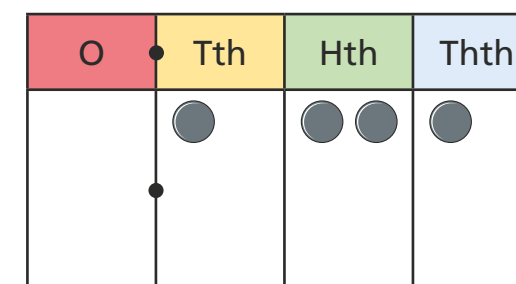
$1.456 = 1 + 0.3 + \boxed{0.15} + 0.006$

$1.456 = 1 + 0.2 + \boxed{0.25} + 0.006$

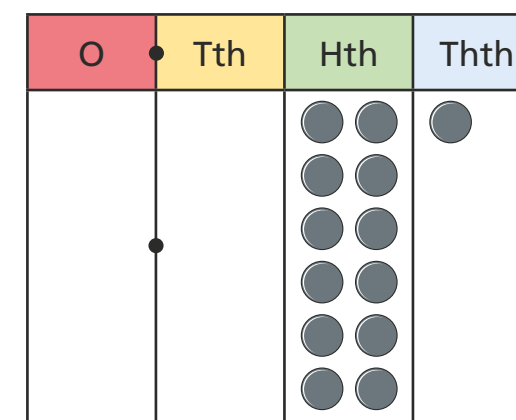
$1.456 = 1 + \boxed{0.45} + 0.006$

7 Mo and Annie have represented 0.121 on their place value charts.

Mo's chart

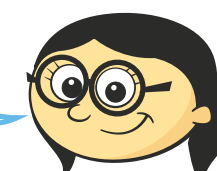


Annie's chart



Mo

Only my grid shows 0.121



Annie

Both our grids show 0.121

Who do you agree with? Annie

Explain why.

Annie could exchange 10 hundredths for one tenth then their grids would be the same.

Multiply 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) $2.3 \times 10 =$ 23

When the number is multiplied by 10 the counters move

1

b) $2.3 \times 100 =$ 230

When the number is multiplied by 100 the counters move

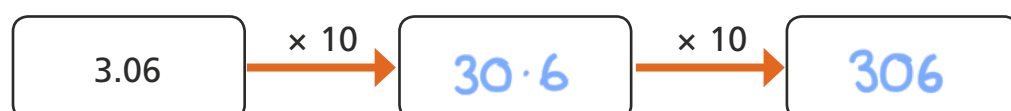
2

c) $2.3 \times 1,000 =$ 2,300

When the number is multiplied by 1,000 the counters move

3

2 Complete the diagram.



3 a) Draw counters on the place value charts to represent each calculation.

4.4×1

Th	H	T	O	Tth	Hth
			● ● ● ●	● ● ● ●	

4.4×10

Th	H	T	O	Tth	Hth
			● ● ● ●	● ● ● ●	

4.4×100

Th	H	T	O	Tth	Hth
			● ● ● ●	● ● ● ●	

$4.4 \times 1,000$

Th	H	T	O	Tth	Hth
			● ● ● ●	● ● ● ●	

b) Complete the calculations.

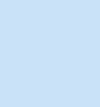
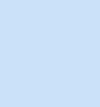
$4.4 \times 1 =$ 4.4

$4.4 \times 10 =$ 44

$4.4 \times 100 =$ 440

$4.4 \times 1,000 =$ 4,400

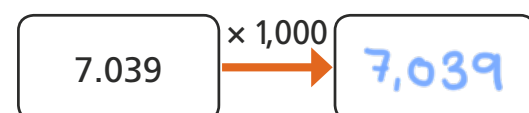
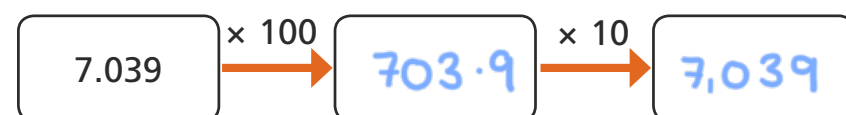
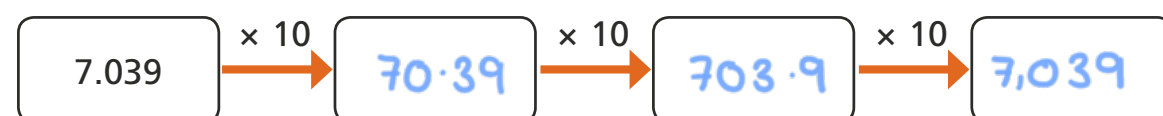
What do you notice?



4 Complete the calculations.

- a) $13.44 \times 10 =$ 134.4 d) $4.4 \times$ 1,000 $= 4,400$
- b) $41.4 \times 100 =$ 4,140 e) 103 $= 1.03 \times 100$
- c) $0.415 \times 1,000 =$ 415 f) $30.44 =$ 3.044 $\times 10$

5 Complete the diagrams.



What do you notice? Why does this happen?

They all give the same final answer because
 $10 \times 10 \times 10 = 100 \times 10 = 1,000$

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

$1.4 \times 10 \times 10 \times 10$ = $1.4 \times 1,000$

$1.4 \times 10 \times 100$ = $1.4 \times 1,000$

$1.4 \times 10 \times 10$ < $1.4 \times 1,000$

$1.4 \times 10 \times 2$ < 1.4×100

7 Kim is calculating 14.3×200
 She writes this as her answer.

$$14.3 \times 200 = 28.600$$

Explain Kim's mistake.

She has multiplied by 2 and added two
zeros. She hasn't considered the place value
of each digit. $14.3 \times 200 = 2860$

8 Use the cards to complete the calculation.

You can use each card more than once.



E.g. 0.002 $\times 10$ $\times 100$ $\times 1,000$ $= 2,000$

How many ways is it possible to complete this calculation?

Talk about it with a partner.

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) $140 \div 10 =$ 14

When the number is divided by 10 the counters move

1

b) $140 \div 100 =$ 1.4

When the number is divided by 100 the counters move

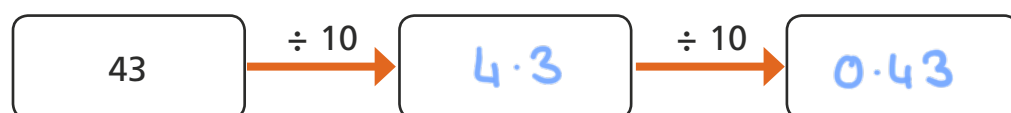
2

c) $140 \div 1,000 =$ 0.14

When the number is divided by 1,000 the counters move

3

2 Complete the diagram.



3 a) Draw counters to represent the calculations.

$123 \div 1$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

$123 \div 10$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

$123 \div 100$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

$123 \div 1,000$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

b) Complete the calculations.

$123 \div 1 =$ 123

$123 \div 10 =$ 12.3

$123 \div 100 =$ 1.23

$123 \div 1,000 =$ 0.123

What do you notice?



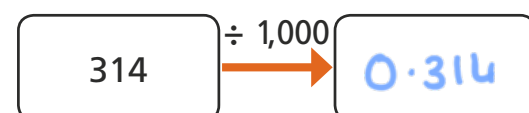
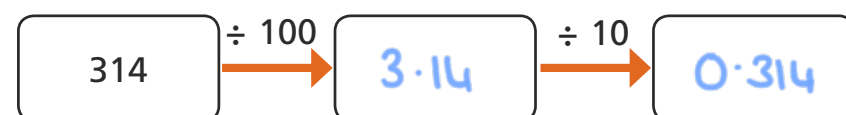
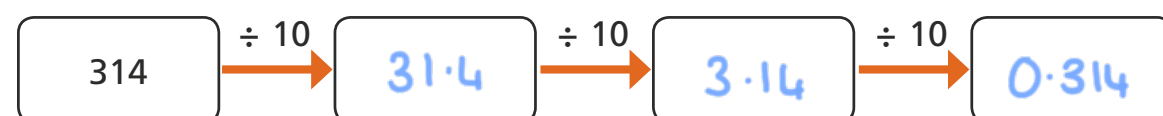
4 Complete the calculations.

a) $16 \div 10 = 1.6$ d) $332 \div 1,000 = 0.332$

b) $43.4 \div 100 = 0.434$ e) $2.4 \div 200 = 0.012$

c) $614 \div 1,000 = 0.614$ f) $5.09 = 101.8 \div 20$

5 Complete the diagrams.



What do you notice? Why does this happen?

They all give the same final answer because
 $10 \times 10 \times 10 = 100 \times 10 = 1,000$

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

$5,400 \div 10 \div 10 \div 10 = 5,400 \div 1,000$

$60 \div 100 \div 10 < 600 \div 100$

$5.7 \div 10 = 57 \div 100$

$5,601 \div 1,000 > 5.601 \div 10$

7 Dexter is solving the calculation $5,400 \div 100$



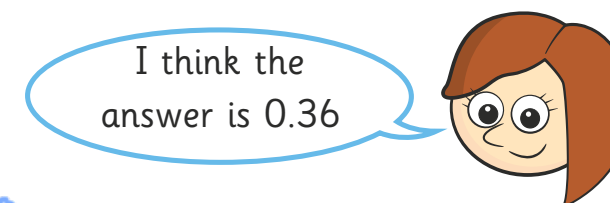
I think the answer is 54.00

Is Dexter correct? yes

Explain your reasoning.

54.00 is the same as 54

8 Rosie is solving the calculation $3,600 \div 200$



I think the answer is 0.36

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



Multiply decimals by integers



1 Use place value counters to solve the calculations.

a) $3.2 \times 3 =$ 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) $4.6 \times 2 =$ 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.

$12.2 \times 3 =$ 36.6

Tens	Ones	Tenths
0 0 0	0 0 0 0 0 0	0 0 0 0 0 0

3 Nijah uses long multiplication to solve 3.72×3

		3	7	2	
	x			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	
	x			4	
		0	2	4	
		3	2	0	
		1	6	0	0
		1	9	4	4

b)

		2	0	9	
	x			6	
		0	5	4	
		0	0	0	
		1	2	0	0
		1	2	5	4

4 Work out the multiplications.

a) $5.2 \times 4 =$ 20.8

d) 7.02 $= 2.34 \times 3$

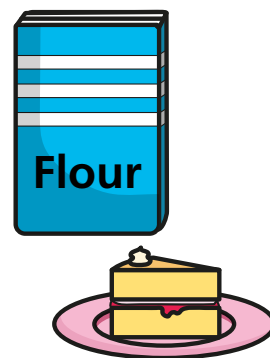
b) $14.3 \times 3 =$ 42.9

e) $11.505 \times 4 =$ 46.02

c) $6 \times 9.1 =$ 54.6

f) $9.602 \times 6 =$ 57.612

- 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) $7.2 \times 2 = 14.4$

$7.2 \times 4 = 28.8$

$14.4 \times 4 = 57.6$

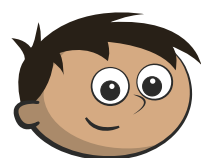
$7.2 \times 8 = 57.6$

b) $10.35 = 3.45 \times 3$

$103.5 = 34.5 \times 3$

$1,035 = 345 \times 3$

- 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? 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..

$$\begin{array}{|c|} \hline 1 \\ \hline \end{array} \begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \end{array} \begin{array}{|c|} \hline 4 \\ \hline \end{array}$$

$$\begin{array}{|c|} \hline \\ \hline \end{array} \cdot \begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array} \times \begin{array}{|c|} \hline \\ \hline \end{array}$$

- a) How many different products can you make?

- b) What is the greatest possible product?

12.84

- c) What is the smallest possible product?

0.234

- d) What is the product closest to 12?

12.36

Compare answers with a partner.

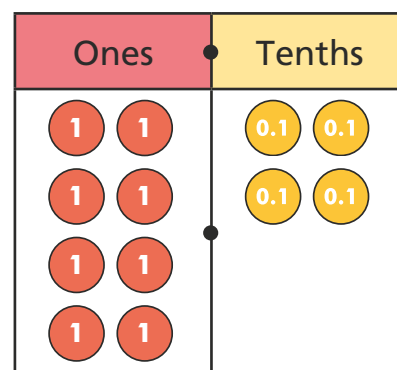


Divide decimals by integers

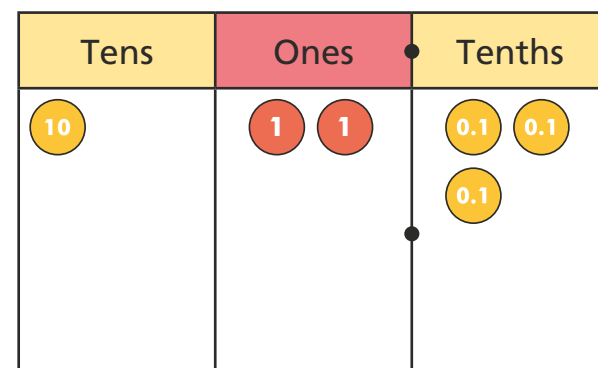


1 Use place value counters to work out the divisions.

a) $8.4 \div 4 =$ 2.1

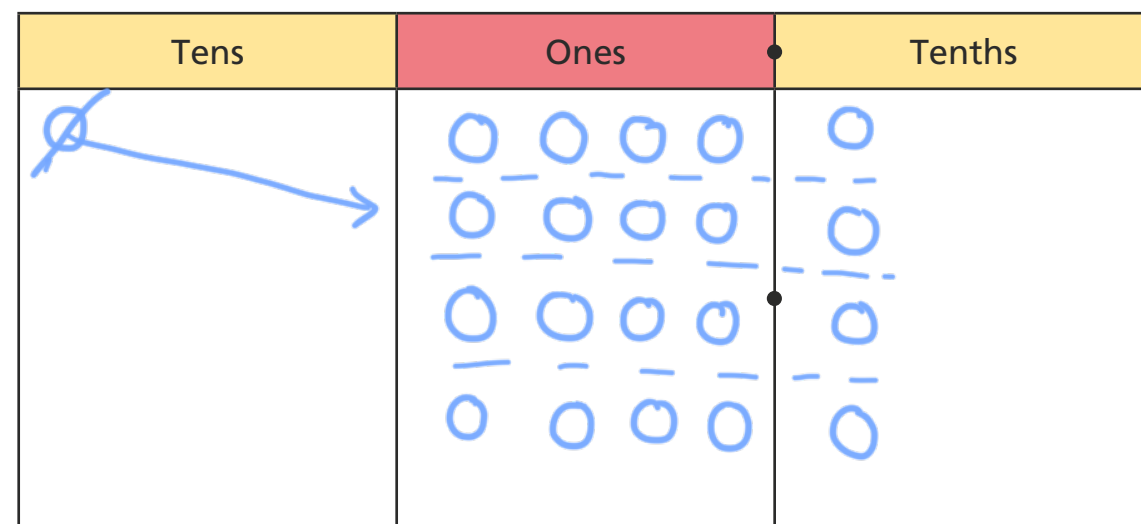


b) $12.3 \div 3 =$ 4.1

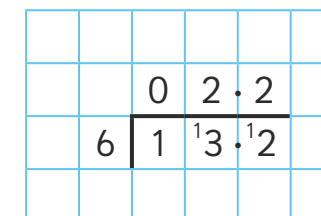


2 Work out the division. Draw your answer.

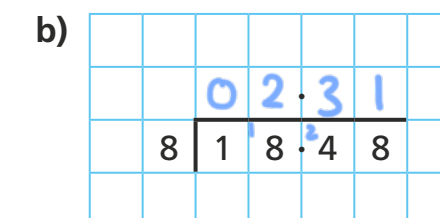
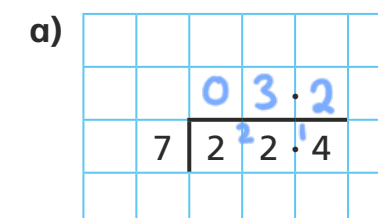
$16.4 \div 4 =$ 4.1



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



Use short division to work out the calculations.



4 Work out the divisions.

a) $25.6 \div 8 =$ 3.2

d) 3.89 $= 19.45 \div 5$

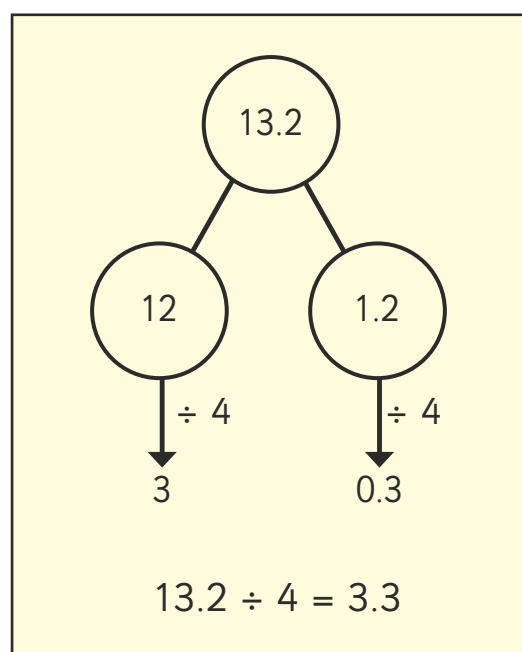
b) $14.8 \div 4 =$ 3.7

e) $202.35 \div 3 =$ 67.45

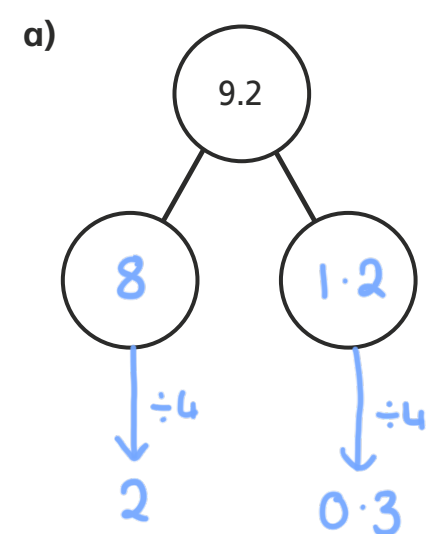
c) $18.48 \div 6 =$ 3.08

f) $105.12 \div 9 =$ 11.68

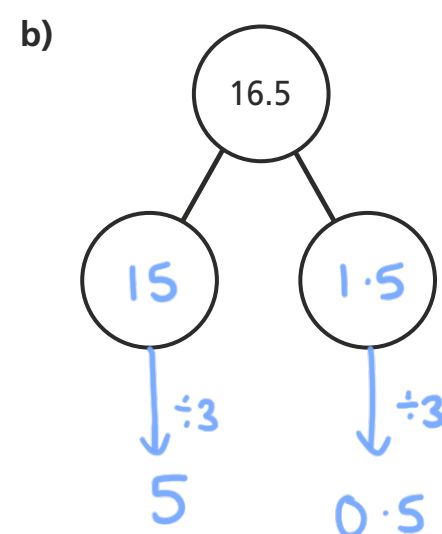
- 5 Esther solves $13.2 \div 4$ by partitioning 13.2 into two numbers that are easier to divide.



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



$$9.2 \div 4 = \boxed{2.3}$$



$$16.5 \div 3 = \boxed{5.5}$$

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

- 6 Work out the divisions.

a) $9.64 \div 4 = \boxed{2.41}$

$96.4 \div 4 = \boxed{24.1}$

$0.964 \div 4 = \boxed{0.241}$

$9.64 \div 8 = \boxed{1.205}$

b) $19.44 \div 9 = \boxed{2.16}$

$19.53 \div 9 = \boxed{2.17}$

$19.62 \div 9 = \boxed{2.18}$

- 7 Fill in the missing numbers.

$3.6 \div 4 = 36 \div \boxed{40}$

$3.6 \div 4 = \boxed{7.2} \div 8$

- 8 Complete the calculation.

e.g. $8.4 \div \boxed{2} = 4.2 \div \boxed{1}$

How many different solutions can you find?

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

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

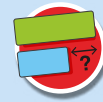
- 2 Huan has saved his pocket money for 5 weeks.
He gets the same pocket money every week.
He has saved £16.65
How much pocket money does Huan get each week?



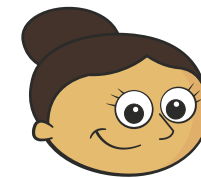
£3.33

- 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?

4 km

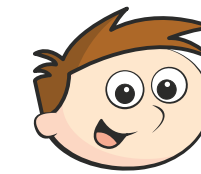


- 4 Dora, Ron and Teddy are making paper chains.



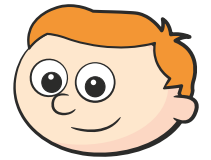
Dora

My paper chain
is 1.1 m long.



Teddy

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



Ron

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

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

0.55m

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

1.65m

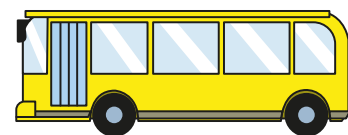
- 5 A water bottle holds 2 litres.
A leak in the bottle means 25 ml drips out each day.
How many days will it take until the bottle is empty?



80 days

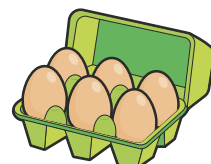


- 6 a) A school bus can hold 30 people.
There are 726 children going on a school trip.
How many buses are needed?



25

- b) A cake needs 4 eggs.
How many cakes can be made from 345 eggs?



86

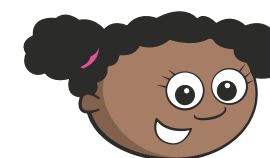
- 7 Shop A sells 5 tins of paint for £23.40
Shop B sells 3 tins of the same paint for £14.01



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 $146 \div 5 = 29$ remainder 1
 $117 \div 4 = 29$ remainder 1



This means that
 $117 \div 4 = 146 \div 5$

Do you agree with Whitney? No
Explain your thinking.

The remainder isn't worth the same amount.
 $146 \div 5 = 29.2$, $117 \div 4 = 29.25$
 $29.2 \neq 29.25$

- 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.



Decimals as fractions

1 Complete the sentences.

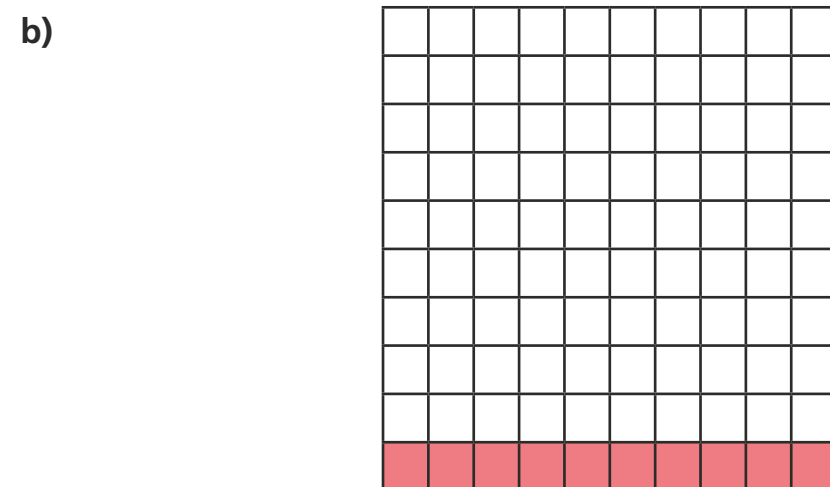
a)

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 $\frac{1}{10}$



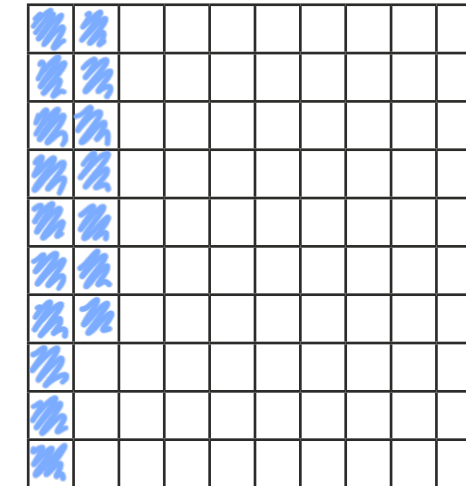
The whole has been divided into 100 equal parts.

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.



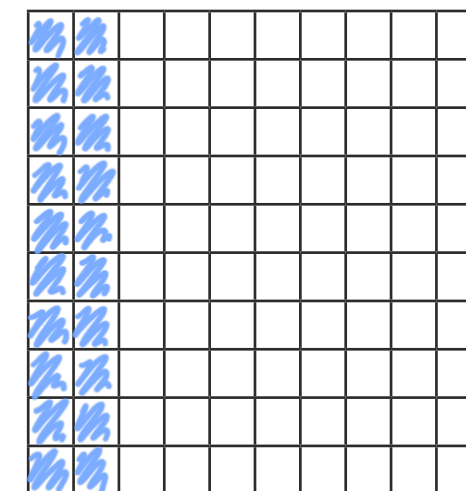
Complete the sentence.

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.



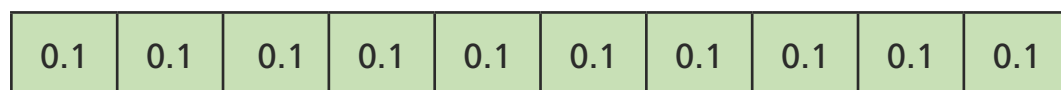
Complete the sentence.

20 parts out of 100 are shaded.

Write 0.2 as a fraction in its simplest form.

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

3



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.

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

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

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

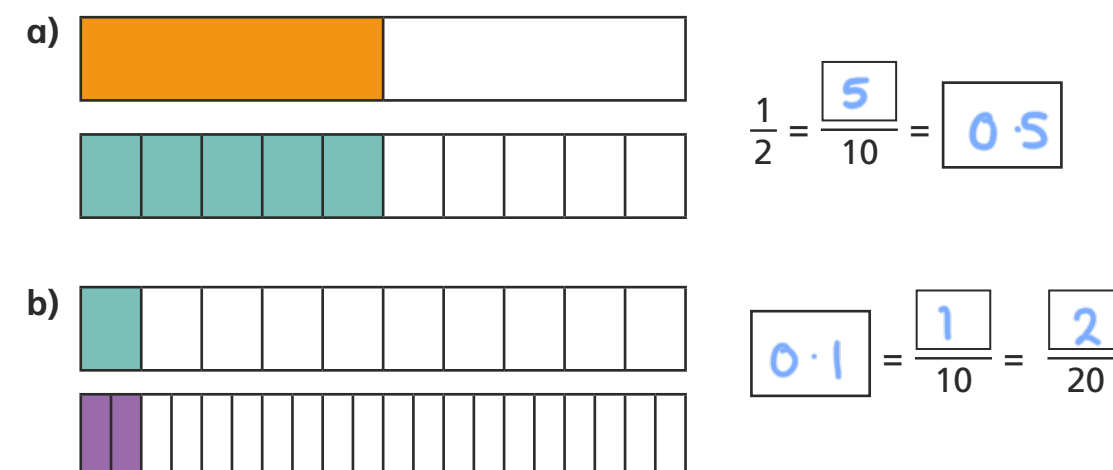
$$d) 0.09 = \frac{9}{100}$$

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

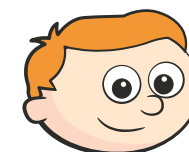
$$f) \frac{21}{50} = \frac{42}{100} = 0.42$$

5

Use the bar models to fill in the missing numbers.

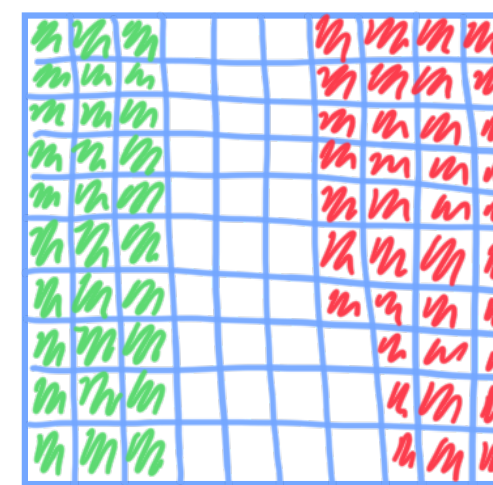


6



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

Draw a diagram to show that Ron is wrong.



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

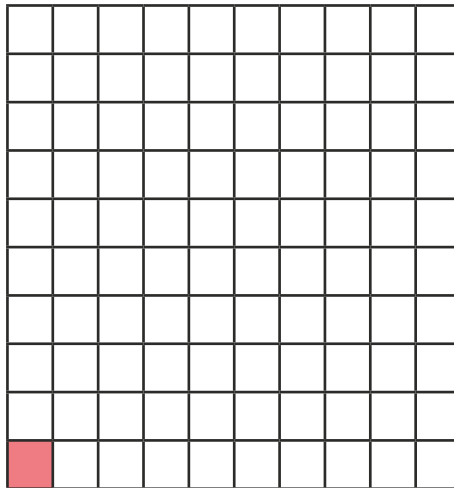
$$0.37 = \frac{37}{100}$$



Fractions to decimals (1)

1 Complete the sentences.

a)

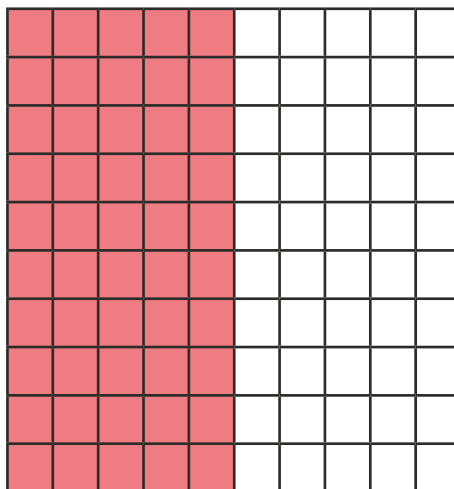


Each square represents $\frac{1}{100}$

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

This is equivalent to 0.01 as a decimal.

b)

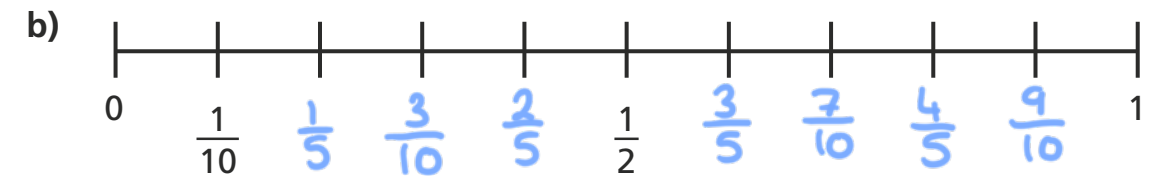
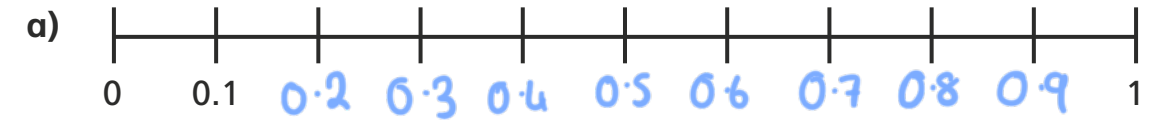


$\frac{50}{100}$ of the whole square is shaded.

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

This is equivalent to 0.5 as a decimal.

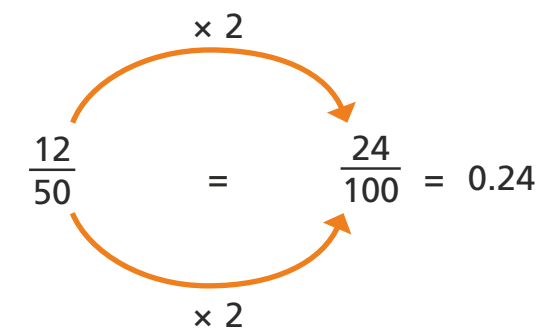
2



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) $\frac{28}{50} = \frac{56}{100} = 0.56$

c) $\frac{9}{25} = \frac{36}{100} = 0.36$

b) $\frac{6}{20} = \frac{30}{100} = 0.3$

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

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

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

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

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

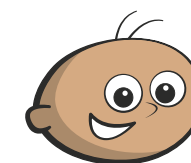
$\frac{1}{20} = 0.05$

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

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

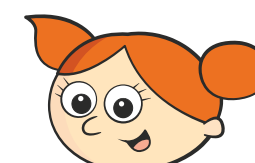
$\frac{6}{20} = 0.3$

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



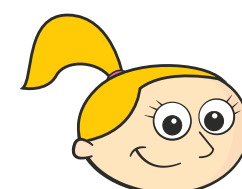
Tommy

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.



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

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

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

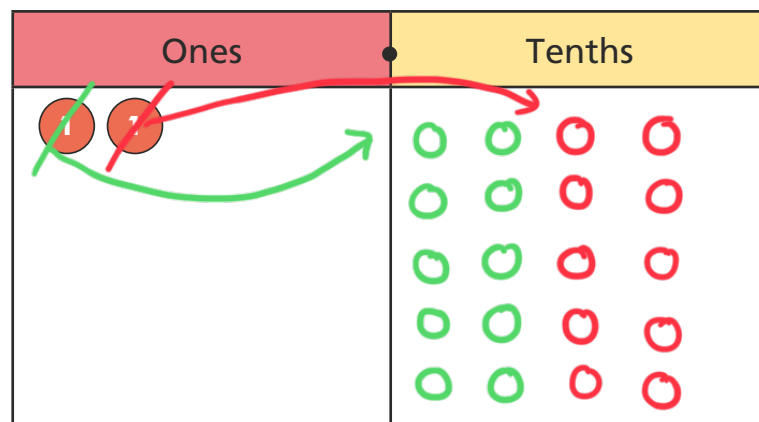
e) $\frac{3}{7} = 3 \div \boxed{7}$

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

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

		0	1	2	5	
	8	1	0	2	0	

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

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

a)

		0	2	5		
	4	1	0	0		

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

b)

		0	8			
	5	4	0			

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

c)

		0	3	7	5	
	8	3	0	0	0	

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



- 4 Find the decimal equivalents for these fractions.

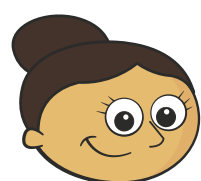
a) $\frac{7}{8} =$ 0.875

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.

			0	.	0	5
2	0		1	.	0	0

$$1 - 0.05 = 0.95$$

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

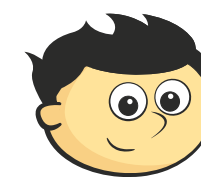
Use Dora's method to find the decimal equivalent for $\frac{49}{50}$

			0	.	0	2
5	0		1	.	0	0

$$1 - 0.02 = 0.98$$

$$\boxed{0.98}$$

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 $2 \div 1$ when he should have done

$1 \div 2$

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.

Poetry – The Listeners by Walter de la Mare

This booklet is based on an Oak Academy Unit – you can follow the lessons on their website.

Lesson 1 – To read and engage with a poem

Walter de la Mare (1873-1956) was a British poet who wrote a huge number of poems. The Listeners, written in 1912, is his most well-known poem. Walter was born in the Victorian era and lived through both World War 1 and World War 2.



Question: What do you think Walter might have written his poems about?

You may have thought his poems may have been about war but in actual fact, he wrote imaginative poems – mystery and fantasy – linked to the real world.

The poem you are going to read is called, ‘The Listeners.’

Questions: What do you think the poem may be about? Who do you think ‘The Listeners’ could be?

➤ **Now read the poem on the following page.**

First impressions

When you have finished reading the poem, complete the table below with your notes:

What did you like about the poem?	What did you dislike about the poem?
Does it remind you of anything? What?	What questions does it leave you with?

The Listeners

BY WALTER DE LA MARE

'Is there anybody there?' said the Traveller,
Knocking on the moonlit door;
And his horse in the silence champed the grasses
Of the forest's ferny floor:
And a bird flew up out of the turret,
Above the Traveller's head:
And he smote upon the door again a second time;
'Is there anybody there?' he said.
But no one descended to the Traveller;
No head from the leaf-fringed sill
Leaned over and looked into his grey eyes,
Where he stood perplexed and still.
But only a host of phantom listeners
That dwelt in the lone house then
Stood listening in the quiet of the moonlight
To that voice from the world of men:
Stood thronging the faint moonbeams on the dark stair,
That goes down to the empty hall,
Harkening in an air stirred and shaken
By the lonely Traveller's call.
And he felt in his heart their strangeness,
Their stillness answering his cry,
While his horse moved, cropping the dark turf,
'Neath the starred and leafy sky;
For he suddenly smote on the door, even
Louder, and lifted his head:—
'Tell them I came, and no one answered,
That I kept my word,' he said.
Never the least stir made the listeners,
Though every word he spake
Fell echoing through the shadowiness of the still house
From the one man left awake:
Ay, they heard his foot upon the stirrup,
And the sound of iron on stone,
And how the silence surged softly backward,
When the plunging hoofs were gone.

Lesson 2 – Identify vocabulary and understand a poem further

- **Read the poem again – out loud.**
- **Read the poem a second time, this time circling or noting down any words you do not know the meaning of or are unsure about.**

e.g. champed, smote

Strategies to identify meanings:

Use **champed** as an example

1. Identify what type of word it is (e.g. noun, verb, adverb, adjective...).
 - (Champed ends with an 'ed' and the poem says the horse, 'champed', so it is a verb)*
 2. Replace the word with another you think might fit.
 - (Read the line again, skipping out the word. Can you think of any words that might fit in there? Well, I know horses eat grass, so **champed** might mean ate).*
 3. Read around the word.
 - (This will help you check your idea works).*
 4. You can then double-check using a dictionary.
-
- **Practise these strategies on the word list you created. Write your definitions next to the words on your list.**
 - Don't worry if you can't work them all out, there is a list at the end of this document.*
 - **Read through the poem again, using your definition list to help you understand it more clearly.**
 - **Write a 2-3 sentence summary of what you think the poem is about.**

Lesson 3 – To answer questions based on a text

Starter

- **Read these sentences about 'The Listeners'. Decide if the statements are true or false.**
 - 1. The traveller arrived in a car.
 - 2. He knocked on the door more than once.
 - 3. The house was in the forest.
 - 4. The traveller went inside the house.
-
- **Read the poem again.**
 - **Then answer the questions below.**

Retrieval questions

How to answer...

- Skim and scan the text for key words.
- Underline key information in the text.

- Read around the key words to check the context.

1. How would you describe the setting? Use words from the poem to support your understanding.
2. What time of day is it? How do you know?
3. True or false? The Listeners are behind the door.

Inference Questions

How to answer...

- Underline the key words in the question.
 - Skim and scan the text for key information.
 - Search for hidden clues in the text.
1. How is the traveller feeling? How do you know?
 2. 'The Listeners were pleased by the arrival of the traveller'. Do you agree with this statement? Use evidence from the text to support your answer.
 3. True or false? He left on his horse quickly.

Lesson 4 – To discuss the poet's choice of language and structure

- **Re-read the poem (Yes, again!).**

Structural Choices

- **This poem rhymes – read through the poem (out loud) and note down any rhyming word pairs you spot.**

e.g. door floor

What do you notice about where the rhyming words appear?

At the beginning, middle or end of the line?

Do they appear on every line?

Is the pattern continued through the whole poem?

What about stone / gone? What do you think happened there?

Find the line: 'silence surged softly backwards.'

Read it aloud. What do you notice?

What sound do you hear?

This repetition of a sound at the start of 2 or more words is called alliteration.

Why do you think Walter de la Mare chose to use that sound?

Vocabulary Choices

What makes this poem a mysterious, spooky story? Well, the language the poet used of course! We will look at this a bit closer now.

>Look at this section from the poem:

But only a host of phantom listeners
That dwelt in the lone house then
Stood listening in the quiet of the moonlight
To that voice from the world of men:
Stood thronging the faint moonbeams on the dark stair,
That goes down to the empty hall,
Harkening in an air stirred and shaken
By the lonely Traveller's call.

What does this make you picture? How do you feel? Take some notes on these questions.
How has the poet managed to make you see / feel this?

>Let's look at another section:

Never the least stir made the listeners,
Though every word he spake
Fell echoing through the shadowiness of the still house
From the one man left awake

What does this make you picture? How do you feel? Take some notes on these questions.
How has the poet managed to make you see / feel this?

Lesson 5 – To identify themes in a poem and write your own poem

Starter: Ordering

- Number the events that happened in the poem to put them in the correct order:
The traveller leaves on his horse.
The phantoms listen from inside the house.
The traveller knocks on the door for the first time.
The traveller's horse eats the grass.
- **Re-read the poem (one last time – maybe!)**

Themes

What is a theme?

An idea or subject that appears in the poem. It comes up lots of times.

So, what are the themes in 'The Listeners'?

- Write a list of the different themes you think there are in the poem.
(There are lots. For example, 'moonlight')

The poem shows a contrast between 2 different worlds: the world of men and the phantom listeners. The door separates these two worlds.

- Think about these opposite ideas. How could you describe these different worlds? Note down your ideas in the boxes below. You might think about what the worlds look like, what happens in them, the sounds you might hear...

The world of men (outside)	The phantom listeners (inside)

Another theme that comes up in this poem is unanswered questions. The poet hasn't told us all the information. E.g. Who is the traveller?

- Write down your list of answered questions.
- If you would like to, have a go at answering some of your own questions. You can be as imaginative as you like!

Poetry writing

Write your own mysterious poem. You could use rhyming, alliteration or mysteries like Walter de la Mare.

Here are some pictures for inspiration:



- Start by jotting down some ideas, then have a go at writing your poem.
- When you have finished, write it up in best, take a photo and put it on ClassDojo.
- You can always record yourself reading your poem and place that on your portfolio page as well.

Lesson 2 Definition List:

Champed – a noisy biting or chewing action

Ferny- covered with fern plants

Smote – hit with a firm blow

Perplexed – confused

Phantom – ghost

Thronging – filling the space

Dwelt – lived

Hearkening – listening

Cropping – cut

Turf – grass

Spake - spoke

— THE NEW YORK TIMES —

MLK BOMB BLAST

31st January 1956

Written by Andrew Larson, Editor-in-chief

A bomb was dramatically left in the porch way of civil rights activist, Martin Luther King Junior's (MLK) home last night. It shattered the windows and created a hole in the porch floor. Miraculously, nobody was injured in this bombing.

Neighbours reported seeing a white car outside the property at the time of the explosion.

They have stated a man got out of the car and threw the bomb towards the porch. Police are currently looking for the suspect.

Caretta King, who is Martin's devoted wife, was in the house at the time and reports hearing footsteps and a thud from the brick hitting the porch. At the time, she was sitting in the living room with the wife of Roscoe Williams, Mabel. Caretta said "I was worried something dangerous was happening". The women quickly fled the front of the house and raced to check up on Yolanda Denise, who is Martin and Caretta's young baby.

The bomb, believed to be a hand grenade, caused significant damage to the house. All of the windows at the front of the house were shattered.



Significant damage to MLK's home

Ernest Walters, who lives on the same street, said he saw a light coloured car move away from the house "at a terribly high speed" after the attack.

After the bombing, a crowd of around 300 Black people gathered outside the house and Martin Luther King appeared in order to make a speech. He begged the crowd to be peaceful.



Significant damage to MLK's home

He is also reported to have said "We believe in law and order. Don't get panicky. Don't get panicky at all. Don't get your weapons. He who lives by the sword will perish by the sword. Remember that is what God said. We are not advocating violence. We want to love our enemies. I want you to love your enemies. Be good to them. Leave them and let them know you love them. I did".



Retrieval: MLK Newspaper



1. On what date did the bombing take place?
2. What colour was the car that left the scene?
3. What is the name of Martin's wife?
4. Who is Yolanda Denise?
5. What sort of bomb was it?
6. What was Martin's response to the bombing?

Vital Vocabulary: MLK Newspaper



1. What is a civil rights activist?
2. In the third paragraph, find and copy one word that means to 'run away.'
3. Which of the following words is closest in meaning to the word 'significant'?

serious/unimportant/signals/shattered

4. In the paragraph beginning, 'After the bombing...', find a word that is the antonym of the word, 'violent.'
5. What does the phrase, 'He who lives by the sword will perish by the sword' mean?
6. In the last paragraph, find and copy a group of words that means that Martin did not want his followers to fight back.

Thinking Caps: MLK Newspaper



1. Look at the following statements. Use the text to work out if these statements are true or false.
 - a) MLK was at home at the time.
 - b) The bomb created a hole in the porch floor.
 - c) MLK wanted revenge on the bombers.
 - d) The getaway car was black.
2. Some people said the culprits responsible were cowards. Do you agree? Use evidence to support your answer.
3. Why did MLK beg 'the crowd to be peaceful'?
4. How are Martin Luther King's ideas similar to Nelson Mandela's?

Topic – I Have a Dream

Catalyst Question: How can we show respect for different cultures?

Write this as a heading and write your answer underneath. Submit this to class dojo.

L.O. To know about and understand other forms of discrimination e.g. anti-semitism

L.O. To create a newspaper article / report.

Key Question: what uses does the paper clip have?

Create a mind map of all the different uses a paper clip could have.

Watch the video <https://www.youtube.com/watch?v=5Blwf72ynS8>

This will explain the history of anti-semitism and that it is still happening today. You would have noticed that the biggest part of this was the holocaust. Google it and read through some of the facts about the holocaust.

Next, watch the video of Arek's story. <https://www.youtube.com/watch?v=AAhFcf5uVr4> and take notes. Then watch another video of Arek speaking as an 85-year-old man. Again take notes.

Task:

Use both of the videos to write a newspaper report about Arek's story and his survival and then how he has educated people about what happened during his time at the concentration camp.

Lastly find out why we mentioned the paper clip in the first place. Read through the information on the following website: <http://www.todayifoundout.com/index.php/2013/09/the-paperclip-was-used-as-a-symbol-of-resistance-during-world-war-ii/>

Can children see how this lesson is linked to all of the previous lessons?

