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.

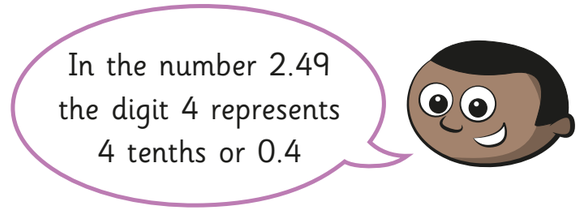
c) 1.48

There is ☐ one, ☐ tenths and ☐ hundredths.

d) 2.07

There are ☐ ones, ☐ tenths and ☐ hundredths.

3 Mo is thinking about tenths and hundredths.



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.

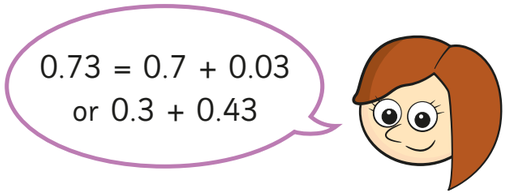
a) 0.64 = 0.6 + ☐

b) 0.53 = 0.5 + ☐

c) 0.3 + 0.05 = ☐

d) 0.06 + 0.8 = ☐

6 Rosie is finding different ways to partition 0.73

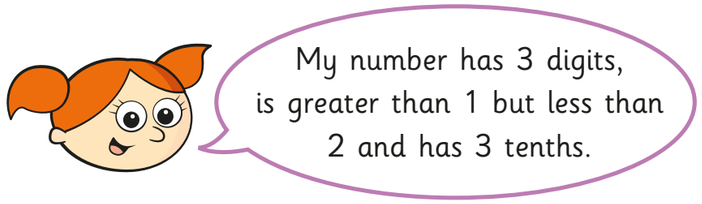


Ones	Tenths	Hundredths
0	7	3

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.

0	2	5

Are the statements true or false? Explain your answers.

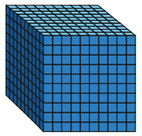
a) The largest number Annie can make is 5.02

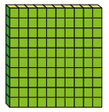
b) The smallest number Annie can make is 0.25

c) Annie can make six different numbers.

Understand thousandths

1 Tommy is using base 10 to represent decimals.

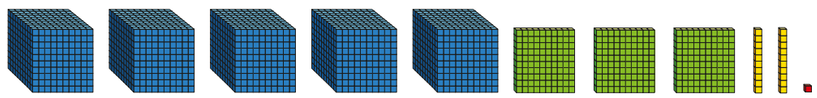
He uses  to represent 1 whole.

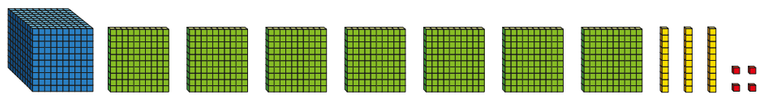
He uses  to represent $\frac{1}{10}$ or 0.1

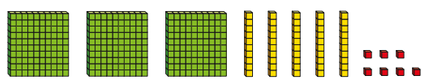
He uses to represent $\frac{1}{100}$ or 0.01

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.

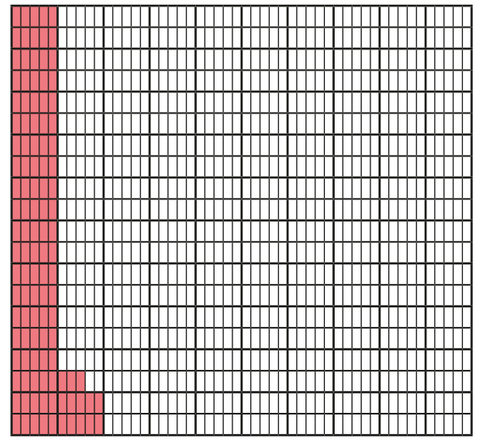
0.512 = 0.5 + 0.01 + ☐

1.352 = 1 + ☐ + ☐ + ☐

2.003 = _____

3 Here is a thousand square.

Part of the square has been coloured.



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

_____

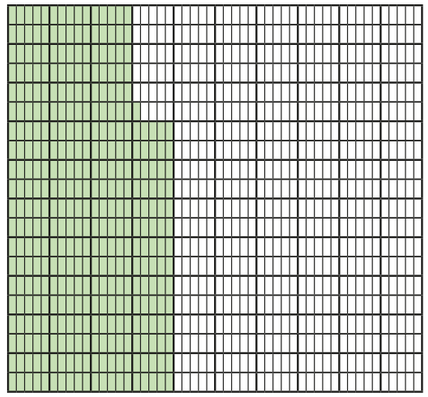
b) What fraction of the square has been coloured? $\frac{\square}{1000}$

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.

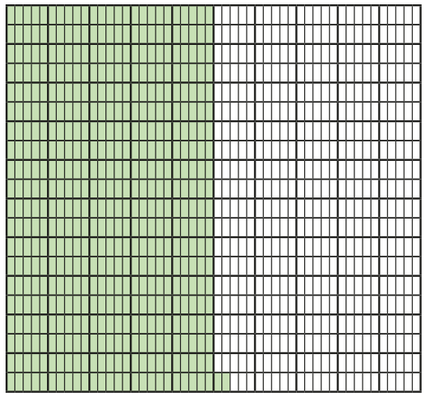
a)



fraction = ☐

decimal = ☐

b)

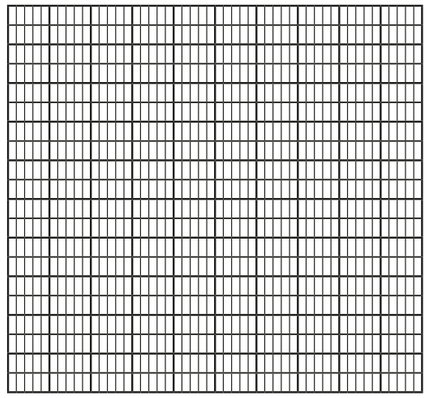


fraction = ☐

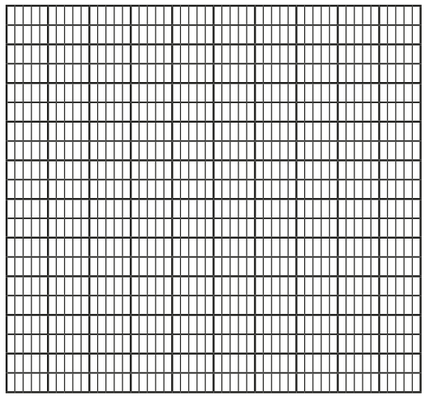
decimal = ☐

5 Colour the grids to represent the fraction and decimal.

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



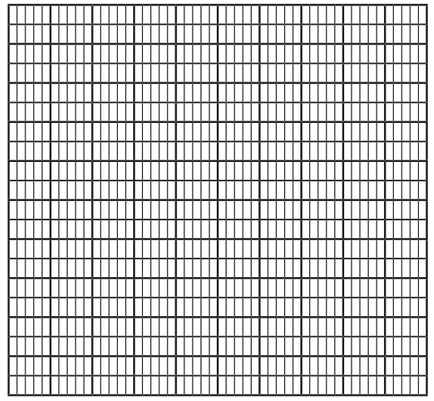
b) 0.302



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

☐

Three decimal places

1 Use place value counters to make the numbers.

Draw your answers.

a) 1.343

T	O	Tth	Hth	Thth

b) 16.052

T	O	Tth	Hth	Thth

c) 7.001

T	O	Tth	Hth	Thth

d) 70.01

T	O	Tth	Hth	Thth

2 Complete the sentences.

O	Tth	Hth	Thth
●● ●	●●	●● ●●	●● ●● ●

There are ☐ ones.

There are ☐ tenths.

There are ☐ hundredths.

There are ☐ thousandths.

The number in digits is ☐

3 Write the value of the 3 in each number.

a) 3.65 _____

b) 0.093 _____

c) 18.31 _____

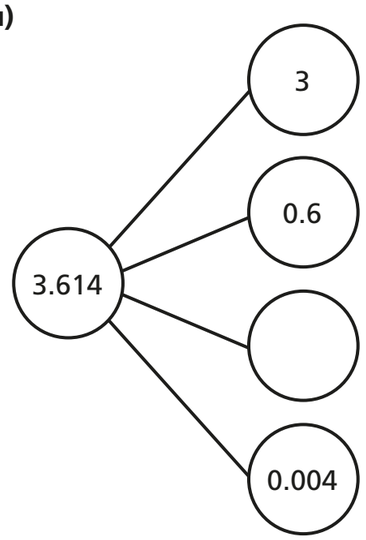
d) 72.439 _____

e) 32.701 _____

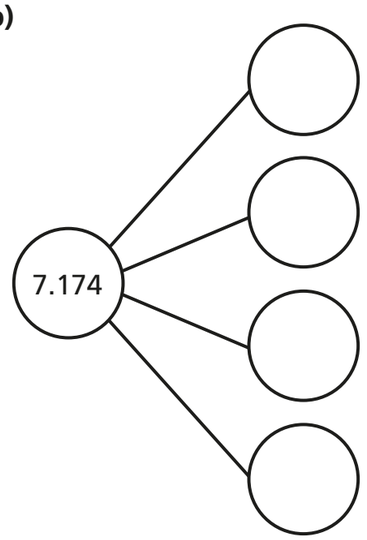
f) 19.03 _____

4 Complete the part-whole models.

a)



b)



5 Complete the number sentences.

a) 17.134 = 10 + 7 + 0.1 + ☐ + 0.004

b) 94.077 = 90 + 4 + 0.07 + ☐

c) ☐ = 30 + 4 + 0.07 + 0.009

6 Complete the number sentences.

1.456 = 1 + 0.4 + ☐ + 0.006

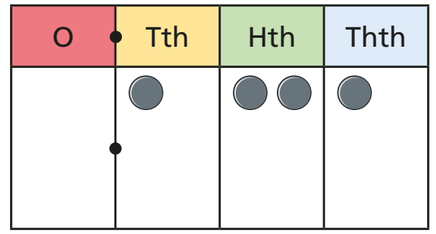
1.456 = 1 + 0.3 + ☐ + 0.006

1.456 = 1 + 0.2 + ☐ + 0.006

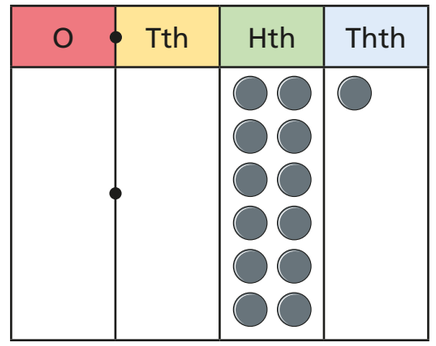
1.456 = 1 + ☐ + 0.006

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

Mo's chart



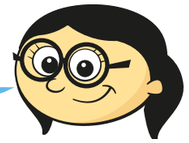
Annie's chart



Only my grid shows 0.121

Mo

Both our grids show 0.121



Annie

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 × 10 = ☐

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

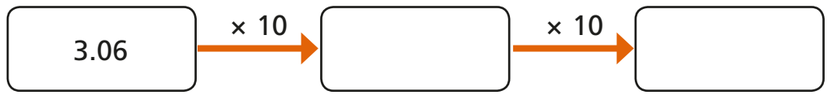
b) 2.3 × 100 = ☐

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

c) 2.3 × 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 × 1,000

Th	H	T	O	Tth	Hth

b) Complete the calculations.

4.4 × 1 = ☐

4.4 × 10 = ☐

4.4 × 100 = ☐

4.4 × 1,000 = ☐

What do you notice?

4 Complete the calculations.

a) 13.44 × 10 = ☐

b) 41.4 × 100 = ☐

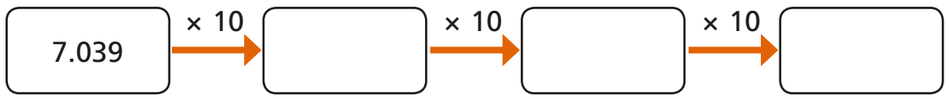
c) 0.415 × 1,000 = ☐

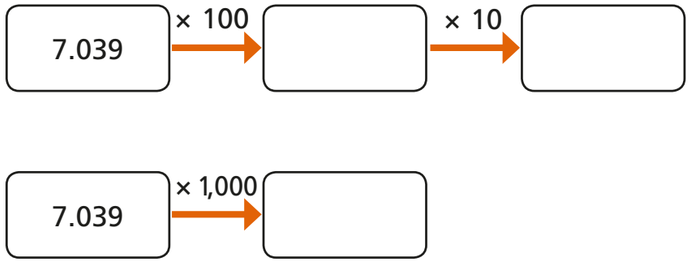
d) 4.4 × ☐ = 4,400

e) ☐ = 1.03 × 100

f) 30.44 = ☐ × 10

5 Complete the diagrams.





What do you notice? Why does this happen?

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

1.4 × 10 × 10 × 10 ◯ 1.4 × 1,000

1.4 × 10 × 100 ◯ 1.4 × 1,000

1.4 × 10 × 10 ◯ 1.4 × 1,000

1.4 × 10 × 2 ◯ 1.4 × 100

7 Kim is calculating 14.3 × 200

She writes this as her answer.

14.3 × 200 = 28.600

Explain Kim's mistake.

8 Use the cards to complete the calculation.

You can use each card more than once.

× 1	× 10	× 100	× 1,000

0.002 ☐ ☐ ☐ = 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 ÷ 10 = ☐

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

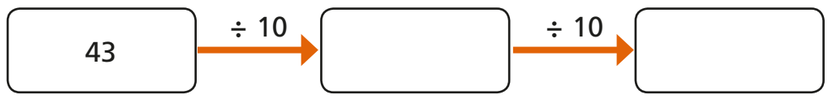
b) 140 ÷ 100 = ☐

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

c) 140 ÷ 1,000 = ☐

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

2 Complete the diagram.



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

123 ÷ 1

H	T	O	Tth	Hth	Thth

123 ÷ 10

H	T	O	Tth	Hth	Thth

123 ÷ 100

H	T	O	Tth	Hth	Thth

123 ÷ 1,000

H	T	O	Tth	Hth	Thth

b) Complete the calculations.

123 ÷ 1 = ☐

123 ÷ 10 = ☐

123 ÷ 100 = ☐

123 ÷ 1,000 = ☐

What do you notice?

4 Complete the calculations.

a) 16 ÷ 10 = ☐

b) 43.4 ÷ 100 = ☐

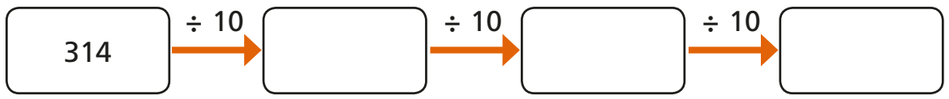
c) 614 ÷ 1,000 = ☐

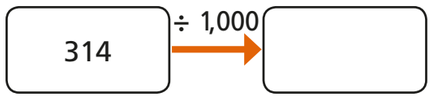
d) 332 ÷ ☐ = 0.332

e) 2.4 ÷ 200 = ☐

f) 5.09 = ☐ ÷ 20

5 Complete the diagrams.





What do you notice? Why does this happen?

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

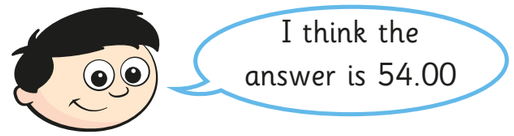
5,400 ÷ 10 ÷ 10 ÷ 10 ◯ 5,400 ÷ 1,000

60 ÷ 100 ÷ 10 ◯ 600 ÷ 100

5.7 ÷ 10 ◯ 57 ÷ 100

5,601 ÷ 1,000 ◯ 5.601 ÷ 10

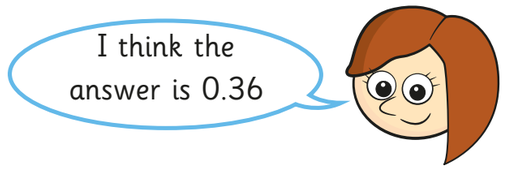
7 Dexter is solving the calculation 5,400 ÷ 100



Is Dexter correct? _____

Explain your reasoning.

8 Rosie is solving the calculation 3,600 ÷ 200



Is Rosie correct? _____

Explain your reasoning.