

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.

$4.4 \times 1 =$

$4.4 \times 10 =$

$4.4 \times 100 =$

$4.4 \times 1,000 =$

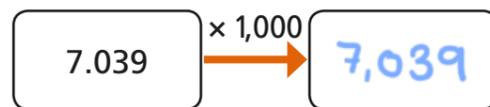
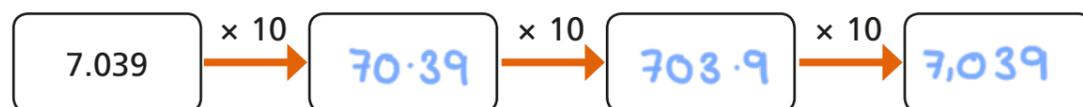
What do you notice?



4 Complete the calculations.

- a) $13.44 \times 10 =$ 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 × 10 × 100 × 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) $140 \div 10 =$

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

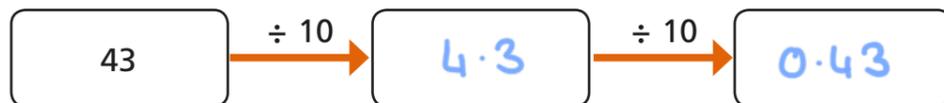
b) $140 \div 100 =$

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
○	○○	○○○			

(Handwritten: A blue box encloses the H, T, and O columns. An arrow points from the O column to the Tth column.)

$123 \div 100$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

(Handwritten: A blue box encloses the H, T, and O columns. An arrow points from the O column to the Hth column.)

$123 \div 1,000$

H	T	O	Tth	Hth	Thth
○	○○	○○○			

(Handwritten: A blue box encloses the H, T, and O columns. An arrow points from the O column to the Thth column.)

b) Complete the calculations.

$123 \div 1 =$

$123 \div 10 =$

$123 \div 100 =$

$123 \div 1,000 =$

What do you notice?

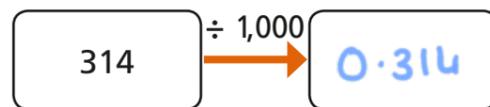
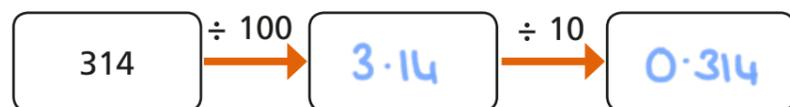
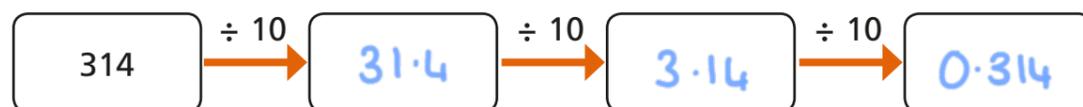




4 Complete the calculations.

- a) $16 \div 10 = 1.6$ 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 $5,400 \div 100$



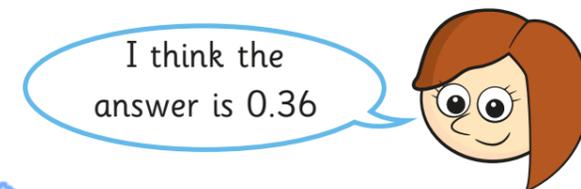
I think the answer is 54.00

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

