Divide decimals by integers
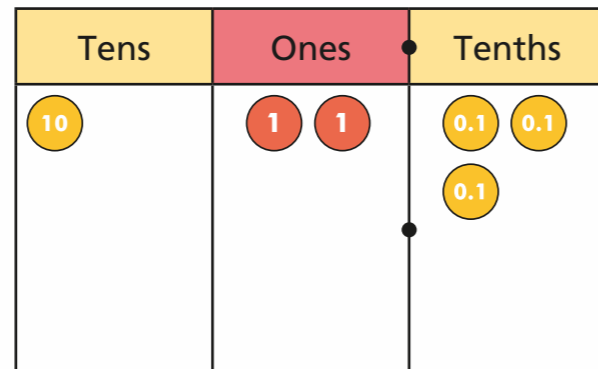
1 Use place value counters to work out the divisions.

a) 8.4 ÷ 4 = $\boxed{2.1}$
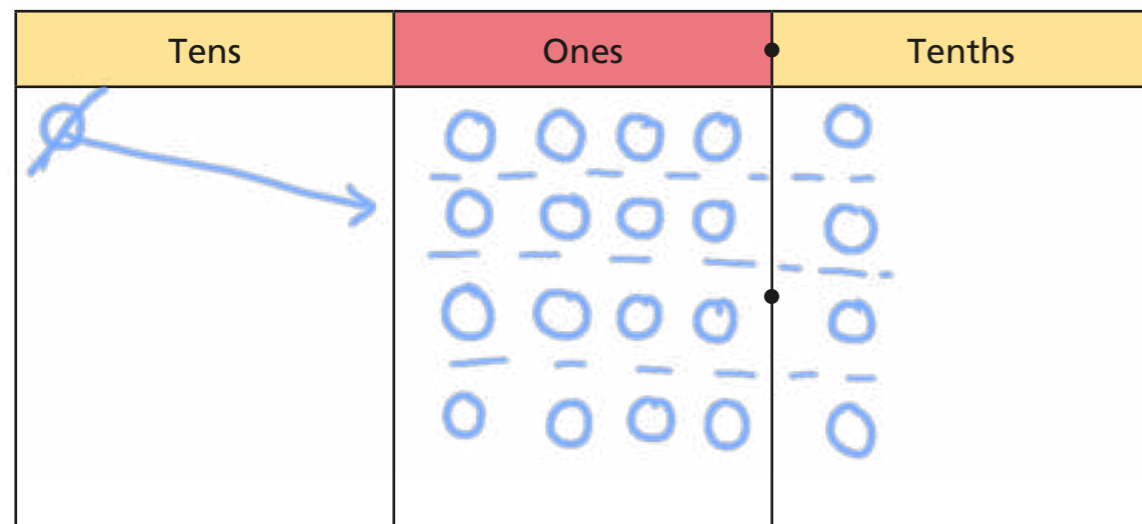
Ones		Tenths
1 1		0.1 0.1
1 1		0.1 0.1
1 1		
1 1		

b) 12.3 ÷ 3 = $\boxed{4.1}$
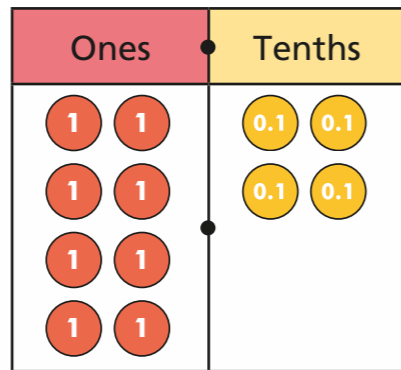
Tens	Ones		Tenths
10	1 1		0.1 0.1
			0.1

2 Work out the division. Draw your answer.

16.4 ÷ 4 = $\boxed{4.1}$

Tens	Ones		Tenths
⊘	O O O O		O
	O O O O		O
	O O O O		O
	O O O O		O

3 Brett uses short division to work out 13.2 ÷ 6

$$
\begin{array}{r}
0\ 2\,.\,2 \\
6\,\overline{)\,1\ {}^{1}3\,.\,{}^{1}2}
\end{array}
$$
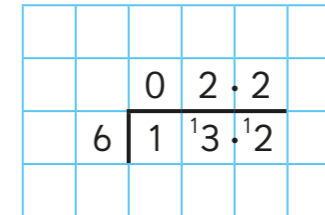
Use short division to work out the calculations.

a)
$$
\begin{array}{r}
0\ 3\,.\,2 \\
7\,\overline{)\,2\ {}^{}2\,.\,4}
\end{array}
$$

b)
$$
\begin{array}{r}
0\ 2\,.\,3\ 1 \\
8\,\overline{)\,1\ 8\,.\,4\ 8}
\end{array}
$$
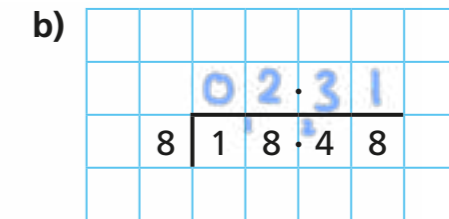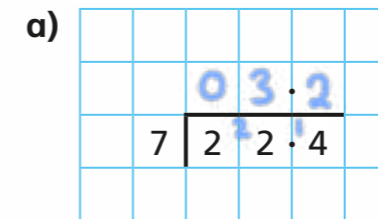
4 Work out the divisions.

a) 25.6 ÷ 8 = $\boxed{3.2}$

b) 14.8 ÷ 4 = $\boxed{3.7}$

c) 18.48 ÷ 6 = $\boxed{3.08}$

d) $\boxed{3.89}$ = 19.45 ÷ 5

e) 202.35 ÷ 3 = $\boxed{67.45}$
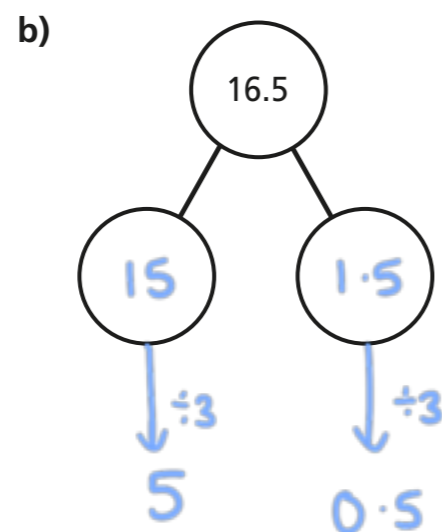
f) 105.12 ÷ 9 = $\boxed{11.68}$

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

13.2 ÷ 4 = 3.3
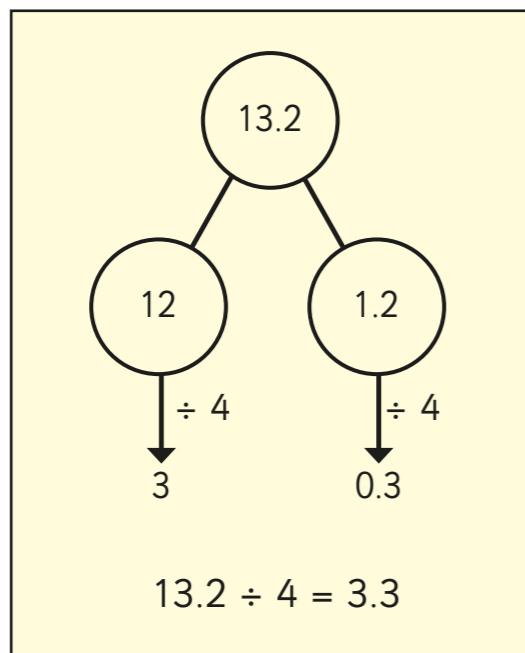
Use Esther's method to complete the part-whole model and calculation.

a)

9.2 ÷ 4 = $2 \cdot 3$

b)
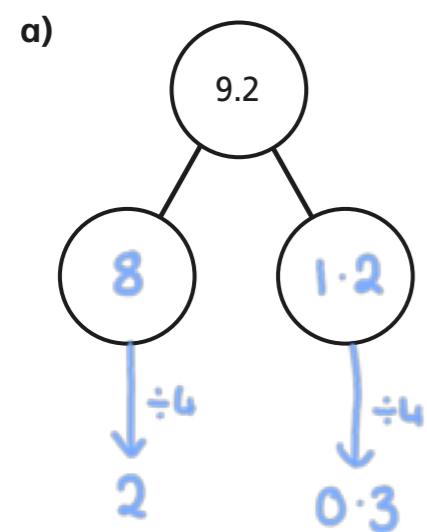
16.5 ÷ 3 = $5 \cdot 5$

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

6 Work out the divisions.

a) 9.64 ÷ 4 = $2 \cdot 41$

96.4 ÷ 4 = $24 \cdot 1$

0.964 ÷ 4 = $0 \cdot 241$

9.64 ÷ 8 = $1 \cdot 205$

b) 19.44 ÷ 9 = $2 \cdot 16$

19.53 ÷ 9 = $2 \cdot 17$

19.62 ÷ 9 = $2 \cdot 18$

7 Fill in the missing numbers.

3.6 ÷ 4 = 36 ÷ 40

3.6 ÷ 4 = $7 \cdot 2$ ÷ 8

8 Complete the calculation.

e.g. 8.4 ÷ 2 = 4.2 ÷ 1

How many different solutions can you find?

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