Subtracting decimals with the same number of decimal places

1 Use a place value chart and counters to help you complete the subtractions.

Tens	Ones	Tenths	Hundredths
10	1 1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01

a) 14.83 − 12.12 = 2.71

c) 14.83 − 12.92 = 1.91

b) 14.83 − 12.14 = 2.69

d) 14.83 − 12.94 = 1.89

e) Which calculation was easier? Talk about it with a partner.

f) What happens when you don't have enough counters in a column to take away?

You need to make an exchange.

2 Complete the sentences.

1 ten can be exchanged for 10 ones.

1 one can be exchanged for 10 tenths.

1 tenth can be exchanged for 10 _hundredths_.

3 Annie is calculating 2.42 − 1.17 using the column method.

She uses a place value chart to help her.

Ones	•	Tenths	Hundredths
1 1	•	0.1 0.1 0.1 ~~0.1~~ →	0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01

$$
\begin{array}{ccc}
 & 2 \cdot \overset{3}{\cancel{4}}{}^{1}2 \\
- & 1 \cdot 1 \ 7 \\
\hline
 & 1 \cdot 2 \ 5 \\
\end{array}
$$

How does the place value chart support the column method?

Talk about it with a partner.

4 Complete the column subtractions.

a)
$$
\begin{array}{ccc}
 & 5 \cdot 6 \ 4 \\
- & 3 \cdot 1 \ 2 \\
\hline
 & 2 \cdot 5 \ 2 \\
\end{array}
$$

c)
$$
\begin{array}{ccc}
 & \overset{7}{\cancel{8}} \cdot \overset{1}{0} \ 9 \\
- & 3 \cdot 8 \ 1 \\
\hline
 & 4 \cdot 2 \ 8 \\
\end{array}
$$

b)
$$
\begin{array}{ccc}
 & 5 \cdot \overset{5}{\cancel{6}}{}^{1}4 \\
- & 3 \cdot 1 \ 5 \\
\hline
 & 2 \cdot 4 \ 9 \\
\end{array}
$$

d)
$$
\begin{array}{cccc}
 & 1 & \cancel{2} \cdot \overset{9}{\cancel{0}} \ {}^{1}2 \\
- & 1 & 1 \cdot 3 \ 8 \\
\hline
 & 0 & 0 \cdot 6 \ 4 \\
\end{array}
$$

5 Whitney has £8.52

She buys this comic.

How much money does she have left?

RoboBoy
£3.25

£ 5.27
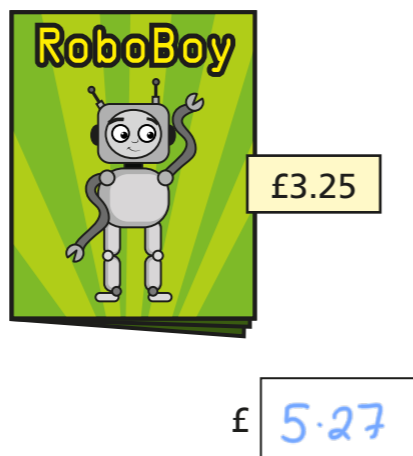
6 Here are some items for sale in a shop.

£2.27   £9.10   £4.91   £1.09

a) How much more does a scarf cost than a bag of marbles?

£ 2.64

b) Esther has £15.31

She buys a pair of headphones and a bag of marbles.

How much money does she have left?

£ 3.94

c) Tom has £7.01

He buys one item and has £5.92 left.

What did he buy?

Tom bought _a keyring_.

7 Ron and Dora are doing a sponsored walk.

Ron walks 3.12 miles.

Dora walks 5.49 miles.

How much further does Dora walk than Ron?

Dora walks 2.37 miles further than Ron.

8 Tommy has three pieces of string.

- The first piece is 0.78 m long.
- The second piece is 0.24 m shorter than the first piece.
- The third piece is 0.07 m shorter than the second piece.

What is the total length of all three pieces of string?

Give your answer in metres and centimetres.

1 m and 79 cm

9 A, B and C are points on a number line.

A	B	C
118.76	159.72	186.34

100   200

How much greater is the difference between A and C than the difference between B and C?

40.96

Compare methods with a partner.