

Explain the mistakes

Mistake 1

$$20 - 16.9$$

4.1

Mistake 2

$$2000 - 70$$

1030

Mistake 3

$$537 - 294$$

$$\begin{array}{r} 537 \\ -294 \\ \hline 363 \end{array}$$

Mistake 1: $20 - 16 = 4$ and if we have a whole and take away 0.9 we are left with 0.1. But we have taken part of another whole. So the answer is 3.1.

Mistake 2: Yes there will only be 1 thousand, and yes there will be 30, but they have forgotten about the hundreds! The answer should be 1930.

Mistake 3: You cannot take 9 away from 3 in the tens column. You need to borrow so the answer should be 243.

Order the subtractions from easiest to solve to trickiest to solve.
Explain your choice of order.

$$0.45 - 0.3 =$$

$$0.45 - 0.15 =$$

$$0.45 - 0.23 =$$

$$0.45 - 0.18 =$$

Notice that the answers in blue say 'possible order'. There is no right answer to this question, it is about how you explain your choices.

Children justify the order they have given.

Possible order:

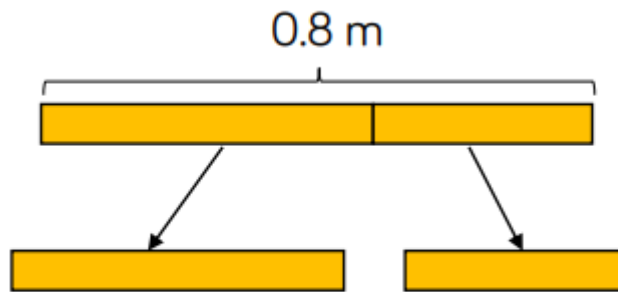
$$0.45 - 0.23 \text{ (no exchange)}$$

$$0.45 - 0.15 \text{ (no exchange with 0)}$$

$$0.45 - 0.3 \text{ (no exchange, different dp)}$$

$$0.45 - 0.18 \text{ (exchange)}$$

If you got stuck on this one, have a look at my workings to help you see how to do it.



Strip 1: 0.45 m

Strip 2: 0.35 m

The strip of paper is 0.8 m long.

A strip is cut off.

The difference in lengths between the two strips of paper is 0.1 m

How long are the two strips of paper?

I know the difference between the lengths is 0.1m.

If I cut the paper in half, each strip would be 0.4m.

If the difference between them is 0.1m, then 1 piece must be half this difference longer than 0.4m and the other must be half this difference shorter than 0.4m.

Half of 0.1m is 0.05m.

Long piece = $0.4\text{m} + 0.05\text{m} = 0.45\text{m}$.

Short piece = $0.4\text{m} - 0.05\text{m} = 0.35\text{m}$.

Check: $0.45\text{m} + 0.35\text{m} = 0.8\text{m}$ ✓

Difference between 0.45m and 0.35m = 0.1m ✓