

Year 5 Problems Summer 2 Week 4

Objective:

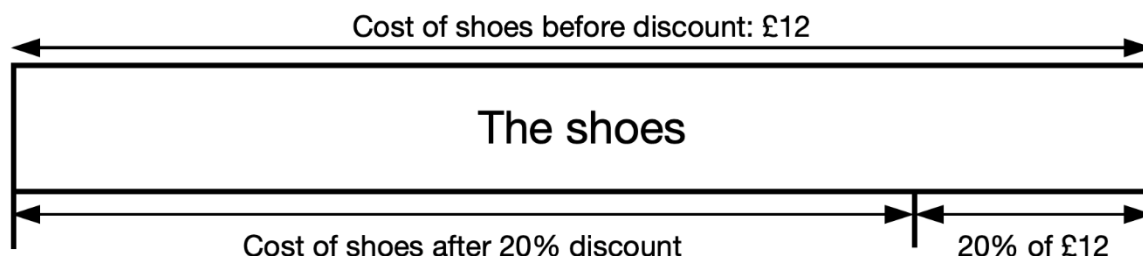
- Solve problems which require knowing percentage and decimal equivalents.
- Solve problems involving simple percentages (multiples of 10%, include 1% and 50% - link to division 10, 100 and 2).

Shoes are reduced by 20% in a sale.

What is the sale price of a pair of shoes that would usually cost £12?

Model answer

This is a common type of problem that we see in everyday life. Shops find they can sell more if they reduce their prices. These price reductions are often expressed as percentages of the original price of the item. In this problem the price has been reduced by 20%. We can see what this looks like if we represent the problem with the bar model.



I think I shall calculate what 20% of £12 is first. There is more than one way of doing this but I think this time I shall start by working out what 10% of £12 is.

I know that $10\% = \frac{1}{10}$

To find a $\frac{1}{10}$ or 10% of number we can just divide the number by 10. I can use my understanding of place value and visualise that the digits need to move one column to the right:

$$£12 \div 10 = £1.20$$

If I know that 10% of the whole of £12 is £1.20 I can work out what 20% is by doubling the 10%.

$$£1.20 \times 2 = £2.40$$

So 20% of £12 is £2.40.

Going back to the problem I can now see that I need to take £2.40 from £12 to find the sale price:

$$£12 - £2.40 = £9.60$$

The answer to the problem is that the shoes cost £9.40 in the sale.

Now try these problems.

Shoes are reduced by 30% in a sale.

What is the sale price of a pair of shoes that would usually cost £15?

Space for working

A coat is reduced by 40% in a sale.

What is the sale price of the coat that would usually cost £25?

Space for working

Answers:

- The shoes would cost £10.50.
- The coat would cost £15.