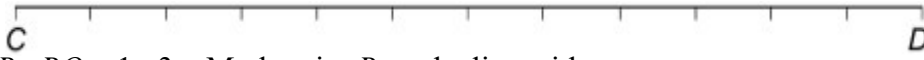


Solving ratio problems

- 1) Divide £600 in the ratio 9 : 6 : 5
- 2) Archie and Ben share some money in the ratio 7:11. Ben gets £132. How much does Archie get?
- 3) Jon and Nik share some money in the ratio 5 : 2
Jon gets £150 more than Nik.
How much money do they share altogether?
- 4) To make a tough adhesive, Paul mixes 5 parts of resin with 2 parts hardener.
 - (a) Write down the ratio of resin to hardener.
 - (b) To fix a birdbath, Paul uses 9 g of hardener. How many grams of resin does he use?
 - (c) On another project, Paul uses 12 g of resin. How much hardener did he use?
- 5) Ali, Beth and Clare take a test. The ratio of Ali's score to Beth's score is 5 : 3
Ali scored 10 more marks than Beth.
Clare scored 7 more marks than Ali.
Work out each of their scores.
- 6) Sandra has a piece of string 153 cm long.
She cuts the string into three lengths in the ratio 4:2:3
Work out the length, in centimetres, of each piece of string.
- 7) A scale model of Tower Bridge in London is 22 cm high. The real bridge is 66 m high.
 - (a) Work out the scale of the model. Write it as a ratio of real height to model height.
 - (b) The bridge is 243 m in real life. How long is the model?
- 8) A supermarket car park has 200 spaces. 10% of the spaces are for staff.
The other spaces are for disabled people, for parents and for other customers in the ratio 1 : 2 : 7
Paul is going to paint a sign for each of the spaces for staff, for disabled people and for parents.
He is **not** going to paint signs for the spaces for other customers.
Work out the total number of spaces Paul is going to paint a sign for.
- 9) In a school, the ratio of the number of students to the number of computers is $1:\frac{3}{5}$. There are 210 computers in the school. How many students are there?
- 10) A petting zoo has rabbits, goats and llamas in the ratio 6 : 3 : 2. The zoo has 20 more rabbits than llamas. How many goats does it have?

11) CD and PQ are lines of length 12 cm

(a) $CE : CD = 1 : 2$. Mark point E on the line with a cross.



(b) $PR : RQ = 1 : 3$. Mark point R on the line with a cross.



12) Three people share £180. Billy gets twice as much as Amy.

Chloe gets three times as much as Billy.

Is Chloe's share enough to buy a bike costing £115?

You **must** show your working.

13) The perimeter of a right-angled triangle is 72 cm.

The lengths of its sides are in the ratio 3 : 4 : 5

Work out the area of the triangle.

14) $ABCD$ is a rectangle.

P and Q are such that $AP : PB = CQ : QD = 2 : 1$

Show that the shaded area is 16 cm^2

