

1 Fraction of an amount ☐

a) $\frac{3}{8}$ of a number is 21 more than $\frac{1}{5}$ of it.

Find the number.

b) x is $\frac{2}{3}$ of y , and y is $\frac{3}{4}$ of z . What fraction of z is x ?

2 Percentage of an amount ☐

a) x is 30% of y . What percentage of x is y ?

Give your answer to 1 decimal place.

b) $a\%$ of b is 30. Work out $b\%$ of $2a$.

3 One number as a percentage of another ☐

a) A circle of radius 4 cm is drawn inside a square of side 8 cm. What percentage of the square does the circle cover? Give an exact answer.

b) 45% of a school are boys. 20% of the boys and 30% of the girls walk to school. What percentage of the school walks?

4 Percentage change ☐

a) A rectangle's length goes up by 10% and its width goes down by 10%. Find the percentage change in its area.

b) A price goes up by $x\%$ and then down by $x\%$. Overall it has fallen by 9%. Find x .

Percentages, growth and decay

revision mat

5 Reverse percentages ☐

a) A shop sells a lamp for £56.70, making a profit of 35% of what it paid. How much profit does it make?

b) A value rises by 40%. What percentage decrease takes it back to where it started? Give your answer to 2 decimal places.

6 Simple interest ☐

a) An account pays simple interest. After 4 years it is worth £1596 and after 7 years £1743. How much was invested?

b) Work out the rate of interest a year.

7 Compound growth ☐

a) £4000 is invested at $r\%$ compound interest a year. After 3 years it is worth £4630.50. Find r .

b) At 6% compound interest a year, after how many whole years has an investment first doubled?

8 Compound decay ☐

a) A machine loses 8% of its value each year. After 3 years it is worth £9733.60. What was it worth when new?

b) Car A is worth £20 000 and loses 18% a year. Car B is worth £15 000 and loses 10% a year. After how many whole years is A first worth less than B?