

Choose appropriate methods to solve complex percentage problems

- 1 a) Mr Hall's salary increases from £25,000 to £28,000 a year.
Find the percentage increase in his salary.

%

- b) After an 8% pay rise, Ms Johns earns £21,600 a year.
What was her salary before the pay rise?

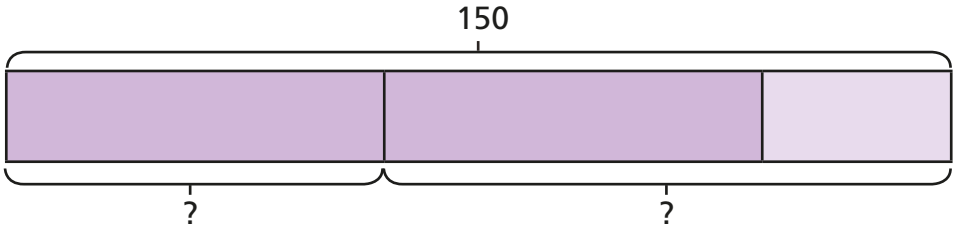
£

- 2 Mrs Patel and Mrs Rose both get paid £25,800 a year.
Mrs Patel receives a 2.5% pay rise. Mrs Rose gets a pay rise of £55 per month.

- a) Who received the greater pay rise?

- b) How much is Mrs Patel's monthly salary now?

- 3 There are 150 people in a golf club.
a) There are 50% more men than women in the golf club.
How many men and how many women are there in the golf club?
You may use the bar model to help you.



There are men and women.

- b) 20% of the men and 5% of the women in the golf club are left-handed.
Show that 14% of the whole membership are left-handed.

- 4 A phone shop is having a sale.
a) The price of a J-phone costing £700 is reduced by 20%.
Work out the sale price of J-phone.



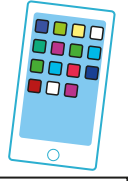
£

- b) The price of a K-phone is reduced from £800 to £660
Work out the percentage reduction in the price of a K-phone.



%

- c) The price of an L-phone is reduced by 15% to £816
Work out the price of an L-phone before the sale.



£



- 5 On one school day, 15% of Year 8 students are absent.
221 Year 8 students are present.
How many students are there in Year 8 altogether?



- 6 The cost of oil increased by 20% one week, but fell back to the previous price the next week.
By what percentage did the cost of oil fall in the second week?
Give your answer to the nearest one per cent.

 %

- 7 The quality of gold is measured in carats.
24-carat gold means 100% pure gold; 18-carat gold means 18 parts pure gold and 6 parts other metals; and so on.

a) What percentage of 18-carat gold is pure gold?

 %

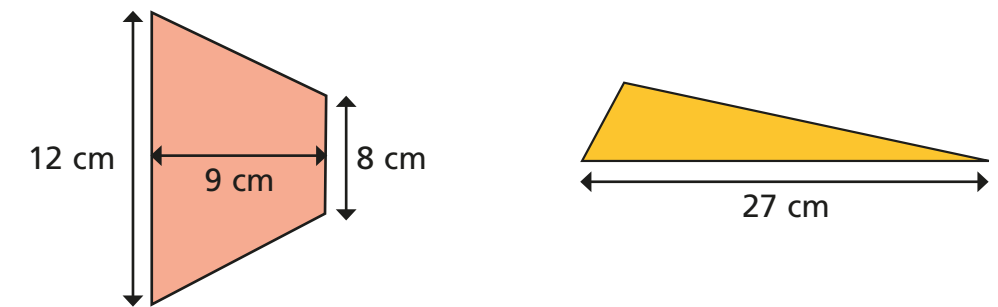
b) What percentage of 9-carat gold is pure gold?

 %

c) A piece of 9-carat gold jewellery contains 142.5 g of gold.
What does the piece of jewellery weigh?

 g

- 8 The area of the triangle is 45% of the area of the trapezium.



Work out the height of the triangle. (The diagrams are not drawn to scale)

 cm

- 9 In a music venue, the ratio of the number of standing tickets to the number of seated tickets is 7 : 3

- Seated tickets are either normal or premium.
- 30% of the seated tickets are premium seats.
- The price of normal seats is 25% more than the price of standing seats.
- The price of premium seats is 20% more than the price of normal seats.
- One night, the venue is sold out.
- The income from the 72 premium seats on this night is £2,592

Work out the total income of the venue on this night.

 £