

Questions on Percentages and Ratios

Q1.

* The diagram shows the floor plan of Mary's conservatory.

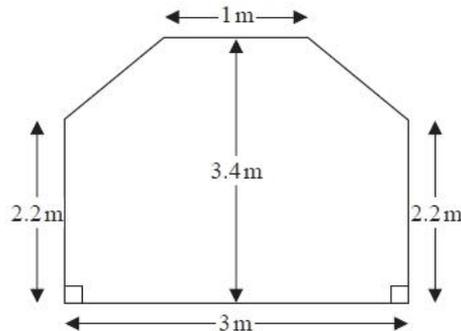


Diagram NOT
accurately drawn

Mary is going to cover the floor with tiles.

The tiles are sold in packs.

One pack of tiles will cover 2m^2

A pack of tiles normally costs £24.80

Mary gets a discount of 25% off the cost of the tiles.

Mary has £100

Does Mary have enough money to buy all the tiles she needs?

You must show all your working.

(Total for question = 5 marks)

Q2.

A set of tyres normally costs £500

In a sale there is a 30% discount.

Work out the sale price of the set of tyres.

£.....

(Total for Question is 3 marks)

Q3.

Lydia is buying a ring.
The ring costs £60
She pays a deposit of 40%.
Work out how much she pays as the deposit.

£.....

(Total for Question is 2 marks)

Q4.

Bill's weight decreases from 64.8 kg to 59.3 kg.
Calculate the percentage decrease in Bill's weight.
Give your answer correct to 3 significant figures.

.....
(Total for Question is 3 marks)

Q5.

In a sale, the price of a jacket is reduced.
The jacket has a normal price of £52
The jacket has a sale price of £41.60
Work out the percentage reduction in the price of the jacket.

..... %

(Total for question = 3 marks)

Q6.

Ben and Lago have some identical packets.

Ben has 20 of the packets.

The total weight of Ben's packets is 32 kg.

Lago has 25 of the packets.

Work out the total weight of Lago's packets.

..... kg

(Total for question = 2 marks)

Q7.

Raya buys a van for £8500 plus VAT at 20%

Raya pays a deposit for the van.

She then pays the rest of the cost in 12 equal payments of £531.25 each month.

Find the ratio of the deposit Raya pays to the total of the 12 equal payments.

Give your answer in its simplest form.

.....

(Total for question = 5 marks)

Q8.

A shop sells packs of black pens, packs of red pens and packs of green pens.

There are

- 2 pens in each pack of black pens
- 5 pens in each pack of red pens
- 6 pens in each pack of green pens

On Monday,

$$\frac{\text{number of packs of black pens sold}}{\text{number of packs of red pens sold}} : \frac{\text{number of packs of red pens sold}}{\text{number of packs of green pens sold}} = 7:3:4$$

A total of 212 pens were sold.

Work out the number of green pens sold.

.....

(Total for question = 4 marks)

Q9.

There are 60 people in a choir.
Half of the people in the choir are women.

The number of women in the choir is 3 times the number of men in the choir.
The rest of the people in the choir are children.

$$\text{the number of children in the choir} : \text{the number of men in the choir} = n : 1$$

Work out the value of n .
You must show how you get your answer.

$n =$

(Total for question = 4 marks)

Q10.

There are four types of cards in a game.

Each card has a black circle or a white circle or a black triangle or a white triangle.



$$\begin{array}{l} \text{number of cards} \\ \text{with a black shape} \end{array} : \begin{array}{l} \text{number of cards} \\ \text{with a white shape} \end{array} = 3:5$$

$$\begin{array}{l} \text{number of cards} \\ \text{with a circle} \end{array} : \begin{array}{l} \text{number of cards} \\ \text{with a triangle} \end{array} = 2:7$$

Express the total number of cards with a black shape as a fraction of the total number of cards with a triangle.

.....

(Total for question = 3 marks)