

Percentages

Reminder:

$$20\% \text{ means } \frac{20}{100} = 0.2$$

$$3\% \text{ means } \frac{3}{100} = 0.03$$

Calculating a percentage using a calculator:

To find 12% of £600



$$\begin{aligned} 12\% \text{ of } £600 &= \frac{12}{100} \times 600 \\ &= (12 \div 100) \times 600 = £72 \end{aligned}$$

To find 9% of £30



$$\begin{aligned} 9\% \text{ of } £30 &= \frac{9}{100} \times 30 \\ &= (9 \div 100) \times 30 = £2.\underline{70} \end{aligned}$$

Note the zero on the end here. We are talking about money so **MUST** include this.

Exercise 1

Calculate the following:

1. 15% of 600

2. 28% of £300

3. 31% of 1000m

4. 18% of £250

5. 41% of \$630

6. 37% of £1255

7. 6% of \$2.50

8. 25% of £4.40

9. 79% of 320g

10. 2.5% of 800kg

11. 1% of £13

12. 90% of 67kg

VAT

When we buy goods from a shop a certain percentage of what we pay is VAT. Most shops include the price of VAT on their price tags but some don't. It is important therefore that we know how to calculate VAT. In the UK the rate of VAT is 20%.

Example

Stephen wants to buy a new TV. The label in the shop states that the TV costs £800 + VAT. Calculate the total price that Stephen pays.

Step 1 – Calculate how much VAT he pays:

$$20\% \text{ of } £800 \quad \Rightarrow \quad \frac{20}{100} \times 800 = (20 \div 100) \times 800 = £160$$

Step 2 – Calculate the cost of the TV plus VAT:

Cost of TV = £800 Cost of VAT = £160

Total Cost = £800 + £160 = £960

Exercise 2

VAT is charged at 20% in all questions.

1. A fridge was for sale at a price of £600 + VAT. What is the total cost of the fridge including VAT?
2. David bought a flat screen TV for £380 + VAT. What did David pay for the TV in total?
3. A phone shop advertised a phone at a price of £180 + VAT. What would the total cost of the phone be?
4. James bought a car priced £4500 + VAT. What is the total price he paid for the car?
5. A toy is sold for £7.50 + VAT. How much would it cost to buy the toy?