

Percentage

Read, write, order and compare percentages in whole numbers

Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof

Recap

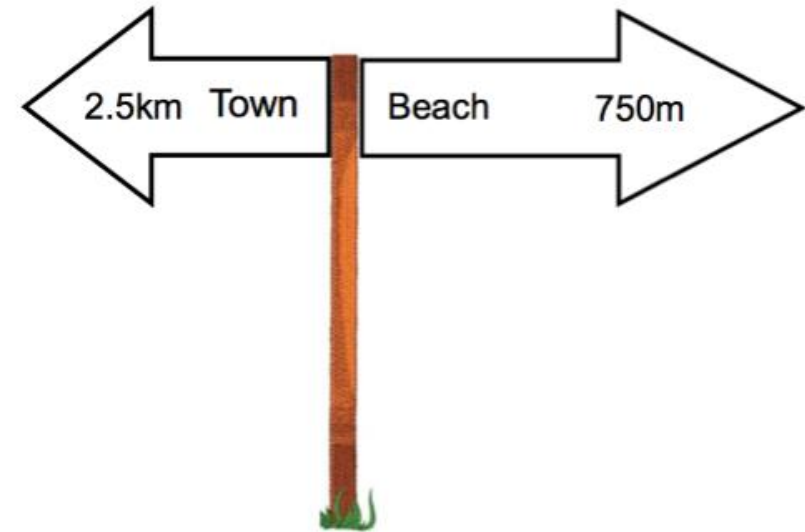
1) Convert the following:

a) $300\text{cm} = \underline{\hspace{2cm}}\text{m}$

b) $450\text{ml} = \underline{\hspace{2cm}}\text{l}$

c) $3200\text{m} = \underline{\hspace{2cm}}\text{km}$

d) $45\text{cm} = \underline{\hspace{2cm}}\text{km}$



Work out the distance between the town and the beach.
State your units.

What method could you use to solve these questions

Calculate

- 34% of 600

Remember – a percentage means out of 100.

So rewrite 34% as $\frac{34}{100}$ – then find $\frac{34}{100}$ of 600.

So $600 \div 100 \times 34 = 204$

Calculate percentage of quantities

Calculate

a) 31% of £260

b) 54% of £780

c) 32% of £500

Calculate

a) 17.5% of £99

b) 30% of £8.80

c) 115% of £500

Worded Percentage of quantities

Q1) 14,000 people attended a concert and 23% of them are children. How many children are the festival

Q2) A car costs £5050 plus 20% tax. Work out the total cost.

Q3) There are 1200 students in a school. 54% are male. How many female students are there in the school?

Q4) A sweater costs £24. It is on sale at a discount of 30% off. What's the new price?

Percentage Increase/Decrease

Increase 400 by 15%.

Simple – we find 15% of 400...

So $15/100 \dots 400 \div 100 \times 15 = 60$

AND now – because it's an increase, you just add it on.

$400 + 60 = 460$

What if it was a decrease?

Your turn

- 1) Increase 20 by 10%
- 2) Decrease 20 by 5%
- 3) Increase 60 by 5%
- 4) Decrease 80 by 15%

Calculate

- 1) Increase £18 by 12%
- 2) Decrease £18 by 26%
- 3) Increase £76.50 by 30%
- 4) Decrease 40000 by 17.5%.

In March, Sammy weighs 64 kg. In August, Sammy's weight has increased by 5%. What does Sammy weigh in August?

Worded Percentage of quantities

Q1) Jasmine owns a cake shop. On Mondays she gives her customers a 25% discount off all birthday cakes.

Jasmine changes the price of one birthday cake from £15 to £12.25.

Has she changed the price correctly?

Q2) A mobile phone case costs £20. The price is reduced by 40%. What is the new price?

Q3) Karl and Leo go to a restaurant and the bill is £46. They pay a 15% tip and split the bill evenly. How much does each pay?

Credit agreement

The price of a new Laptop is £980. It is available on credit agreement by paying a deposit of 15% followed by 12 instalments of £80.35.

Find the total credit agreement cost and the extra that you would pay (over cash price) using credit agreement.


Calculating instalments

The cash price of a television is £540. You can buy it on finance, by paying 15% and then paying monthly instalments for a year. How much would you pay per month?

Exam questions

Jane wants to buy a barbecue.

She sees this offer.



Barbecue £150
Pay 20% deposit.

(a) Work out 20% of £150 for Jane.

(2)

Use the space below to show clearly how you get your answer.

Exam questions

Michael wants to buy a new car.

He needs to pay

- a cash deposit of £5875
- £229.20 each month for 24 months.

(a) Work out the total amount Michael will pay.

Show a check of your working.

(4)

Use the space below to show clearly how you get your answer.

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(4)

Use the space below to show clearly how you get your answer.

Exam questions

Michael wants to buy winter tyres for the car.

The normal price for the tyres is £400.

There is a discount of 15% off the normal price.

Michael thinks 15% of £400 is £50

(c) Is 15% of £400 equal to £50?

(2)

Use the space below to show clearly how you get your answer.

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Exam questions

Tim is going to buy a large garden shed.
He plans to use it for a home cinema.

Tim wants to buy this shed.



Garden shed Price £3200

Tim pays a deposit for the shed.
The deposit is 15% of the price.

(a) How much is 15% of £3200?

Show a check of your answer.

(3)

Exam questions

Mr Smith wants to buy a hot tub.

There are two options to pay for the hot tub.

Hot tub	
Option 1	cash price £5000
Option 2	pay 20% of the cash price now and pay £183.80 each month for 2 years

Mr Smith uses option 2

How much extra will Mr Smith pay in total using option 2 instead of option 1?

(5)

Exam questions

Ben wants to keep rabbits in his garden.
The rabbits will live in a rabbit run and hutch.

Ben wants to compare different types of rabbit food.

He knows that

- 500 g of dried rabbit food contains 90 g of fibre
- 30% of the weight of hay is fibre.

Ben thinks that 500 g of hay has twice as much fibre as 500 g of dried rabbit food.

Is Ben correct?

Show why you think this.

Show a check of your working.

(4)

Exam questions

Zoe wants to put some money into a savings bond.

She puts £4000 into the savings bond for one year.
After one year she will get 3% interest on the money she put in.

What is 3% of £4000?

(3)

