Maths.scot

National 5 Maths Percentages

SQA past paper and specimen paper questions and answers by topic

BE GREEN
KEEP IT ON
THE SCREEN

Beth normally cycles a total distance of 56 miles per week.

She increases her distance by 15% each week for the next three weeks.

How many miles will she cycle in the third week? **3**

Answer:

85.169 miles

This year Adèle paid £465 for her car insurance.

This is an increase of 20% on last year's payment.

How much did Adèle pay last year? **3**

Answer:

£387.50

480 000 tickets were sold for a tennis tournament last year.

This represents 80% of all the available tickets.

Calculate the total number of tickets that were available for this tournament.   **3**

Answer:

600 000

There are 964 pupils on the roll of Aberleven High School.

It is forecast that the roll will decrease by 15% per year.

What will be the expected roll after 3 years?

Give your answer to the nearest ten. **3**

Answer:

590

A house is valued at £240 000.

Its value is predicted to rise by 2·8% per annum.

Calculate its predicted value after 2 years. **3**

Answer:

£253 628

James paid £297·50 for a laptop in a sale.

The discount in the sale was 15%.

Calculate the original price of the laptop.   **3**

Answer:

£350

A drinks manufacturer is reducing the sugar content of one of their fizzy drinks by 8% per year over the next 3 years.

The sugar content of a standard can is currently 35 grams.

Calculate the sugar content of a standard can after 3 years.   **3**

Answer:

27.3 g (approximately)

Beth normally cycles a total distance of 64 miles per week.

She increases her total distance by 15% each week for the next three weeks.

How many miles does she cycle in the third week? **3**

Give your answer to the nearest mile.

Answer:

97 miles

A necklace is valued at £1200.

Its value is expected to increase by 4·5% per year over the next 3 years.

Calculate the expected value of the necklace after this time.

Give your answer to the nearest pound. **3**

Answer:

£1369

A theatre group sold 4830 tickets for their show.

This was 15% more than they sold last year.

How many tickets did they sell last year?   **3**

Answer:

4200

Households in a city produced a total of 125 000 tonnes of waste in 2017.

The total amount of waste is expected to fall by 2% each year.

Calculate the total amount of waste these households are expected to produce in 2020.   **3**

Answer:

117 649 tonnes

Venus and Earth are two planets within our solar system.

Venus   Earth

The volume of Venus is approximately $9 \cdot 3 \times 10^{11}$ cubic kilometres.

This is 85% of the volume of Earth.

Calculate the volume of Earth.   **3**

Answer:

1.094×10^{12} km^3

A charity distributed 80 000 emergency packages during 2018.

This number is expected to increase by 15% each year.

Calculate how many emergency packages the charity expects to distribute in 2021.   **3**

Answer:

121 670

Georgie had her roof repaired.

She was charged an extra 2·5% for late payment.

She had to pay a total of £977·85.

Calculate how much she would have **saved** if she had paid on time.

3

Answer:

£23.85

A band sold 2400 tickets for their gig in Edinburgh.

This was 75% of the number of tickets sold for their gig in Glasgow.

Calculate the number of tickets sold for their gig in Glasgow.   3

Answer:

3200

A housing development is being built.

The price of a house built in 2020 is £250 000.

This price is expected to increase by 4% each year.

Calculate the expected price of a house built in 2022.   **3**

Answer:

£270 400

Tommy buys flower seeds from a website.

Tommy is given a 30% discount. He pays £16.10 for the seeds.

Calculate the cost of the flower seeds without the discount. **3**

Answer:

£23

A company's annual profit at the end of 2021 was £215,000.

The profit is expected to increase by 3% each year.

Calculate the company's expected annual profit by the end of 2025.

Give your answer correct to the nearest thousand pounds.   **3**

Answer:

£242 000

A caravan was bought for £20,000.

It depreciated by 11% in the first year.

It then depreciated by a further 6% each year over the next two years.

Calculate the value of the caravan three years after it was bought. **3**

Answer:

£15 728.08

Nadim bought a flat last year.

The value of the flat has increased by 8% and it is now worth £94,500.

Calculate how much Nadim paid for the flat.   **3**

Answer:

£87 500