



Worked answers

Level 1

Number skills and rounding

Non-Calculator Questions

1. A newspaper reports that the UK wastes one million tons of food each year that could be used to feed hungry people.

Write one million in figures.

[1 mark]

Your answer:	1 000 000

2. In a recent report, it was estimated that 750 000 people keep hens.

Write 750 000 in words.

[1 mark]

Your answer:	Seven hundred and fifty thousand
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3. John reads that six hundred and seventeen thousand people went to hospital last year with illnesses caused by a poor diet.

What is six hundred and seventeen thousand in numbers?

[1 mark]

Your answer:	617 000

4 (a) Dennis thinks he is spending too much money on fuel for his car.

He uses this formula to work out how much fuel in **litres** he uses in a year.

$$\boxed{\text{Fuel used in litres}} = \boxed{\text{Distance travelled in miles}} \times \boxed{4.5} \div \boxed{\text{Miles per gallon}}$$

Last year he travelled 10 000 miles.

His car did 40 miles per gallon.

How many litres of fuel did Dennis use last year?

[3 marks]

$$\text{Fuel} = 10\,000 \times 4.5 \div 40$$

$$\text{Fuel} = 45\,000 \div 40$$

$$\text{Fuel} = 4\,500 \div 4$$

$$\text{Fuel} = (4\,000 \div 4) + (500 \div 4)$$

$$\text{Fuel} = 1\,000 + 125$$

$$\text{Fuel} = 1\,125$$

Your answer:

1 125 litres

4 (b) The average cost of petrol last year was £1.29 per litre.

How much did it cost Dennis last year for 100 litres of petrol?

[2 marks]

$$1.29 \times 100 = \text{£}129$$

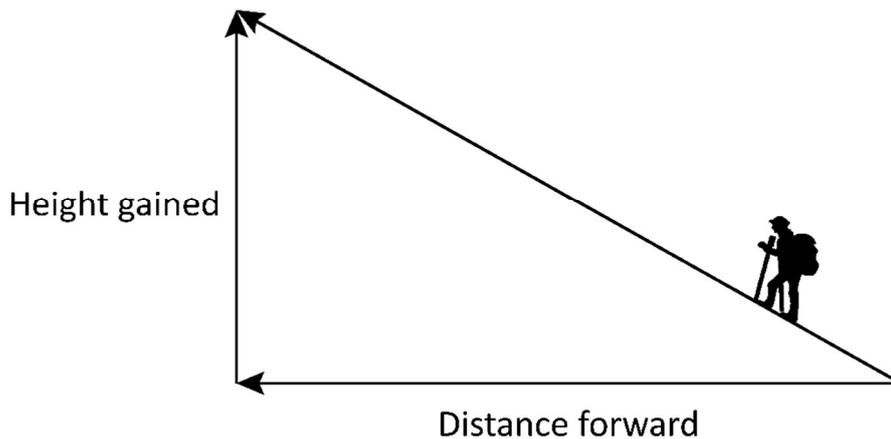
Your answer:

£ 129

5 (a) Don is going to climb a mountain called Ben Nevis.

To estimate how long this will take he uses this rule:

- 12 minutes for every 1 kilometre (km) of distance forward plus
- 10 minutes for every 100 metres (m) of height gained.



The height of Ben Nevis is 1345 m

The distance forward is 17 km

Estimate how long it will take Don to climb Ben Nevis.

Give your answer to the nearest hour.

[5 marks]

$$12 \times 17 = (17 \times 2) + (17 \times 10) = 34 + 170 = 204 \text{ minutes}$$

$$1345 \div 100 = 13.45$$

$$13.45 \times 10 = 134.5 \text{ minutes}$$

$$134.5 + 204 = 338.5 \text{ minutes in total}$$

5 hours is 300 minutes. Total time is 5 hours and 38.5 minutes

38 minutes is more than half an hour, so 338.5 minutes is closer to 6 hours than to 5 hours

6 hours

5 (b) Don travels to Fort William to climb Ben Nevis.

The temperature at the bottom of Ben Nevis is **3 °C**

The temperature at the top of Ben Nevis is **-6 °C**

Calculate the difference in temperature between the top and bottom of Ben Nevis.

[2 marks]

$$6 + 3 = 9$$

Your answer:

9 degrees

6. Denise needs wax to make candles.

She wants to know how much wax, in kilograms (kg), she needs to buy.

She uses this calculation:

$$\frac{870 \times 1.5}{10^2}$$

How much wax will Denise need to buy?

[3 marks]

$$10^2 = 100$$

$$870 \times 1.5 = 870 + \frac{870}{2}$$

$$870 \div 2 = 435$$

$$870 + 435 = 1305$$

$$1305 \div 100 = 13.05$$

Your answer:

13.05 kg

Calculator Questions

7. When a group of travellers get on a plane the pilot announces that the temperature is **10 °C** at their destination.

It is **-2 °C** in the UK.

What is the difference in temperature from the UK to their destination?

[1 mark]

$$10 + 2 = 12$$

Your answer:

12 °C

8. Hamid organises a go karting party for **himself and 5 friends.**

The cost is **£29.95 per person.**

He uses rounding to estimate the cost for the whole group.

How much is the estimated cost?

[2 marks]

$$30 \times 6 = 180$$

Your answer:

£ 180

9. The world population is about 7726.5 million.

About 1 in 9 people in the world experience extreme hunger.

Use this information to estimate how many millions of people in the world experience extreme hunger.

Give your answer to the nearest million.

[2 marks]

$$7\,726\,500\,000 \div 9 = 858\,500\,000$$

$$858\,500\,000 \div 1\,000\,000 = 858.5$$

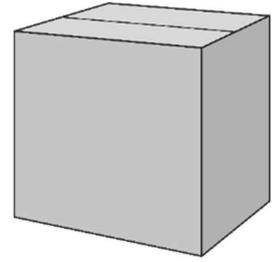
Your answer:

859 million

10. Natalie packs children's clothes into boxes.

Each box is a cube with side lengths of 50 cm

The clothes weigh 350 grams (g) per 500 cm³



Calculate the weight of the clothes in each box when the box is full.

Give your answer in kg

[4 marks]

$$50 \times 50 \times 50 = 125\,000 \text{ cm}^3$$

$$125\,000 \div 500 = 250$$

$$250 \times 350 = 87\,500$$

$$87\,500 \div 1\,000 = 87.5$$

Your answer:

87.5 kg

11. Every year, Shaz arranges a football tournament to raise money for charity.

There will be 6 matches in total.

Each match lasts 20 minutes.

There is a five-minute gap between each match.

Shaz wants to have the last match finish at 14:10

What time should she start the first match?

[3 marks]

20 x 6 = 120 minutes playing time

5 gaps between 6 matches

5 x 5 = 25 minutes

145 minutes in total = 2 hours and 25 minutes

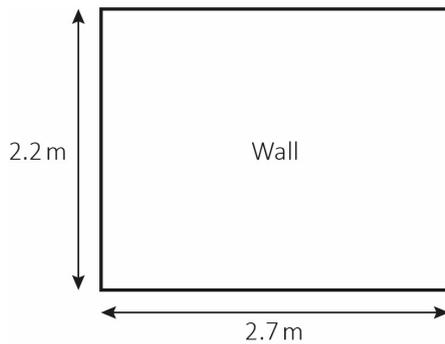
14:10 – 25 minutes = 13:45

13:45 – 2 hours = 11:45

Your answer:

11:45

12. In a room, one of the walls is 2.7 m long and 2.2 m high.



Not drawn
accurately

Chester wants to put wallpaper on this wall.

He uses wallpaper that is 0.5 m wide and 12.1 m long.

Chester will hang the wallpaper vertically with no overlaps.

Each piece will go from ceiling to floor with no joins.

How many rolls of wallpaper will Chester need to buy?

You must show your working.

[3 marks]

$$2.7 \div 0.5 = 5.4 \text{ strips wide}$$

So need 6 lengths of 2.2 m to cover the wall

$$6 \times 2.2 = 13.2 \text{ m}$$

Each roll is 12.1 m long, so will need 2 rolls

Your answer:

2 rolls

13. When people are starving, aid organisations have to decide quickly who to help first.

One method aid organisations use is to calculate body mass index (BMI).

To find the BMI:

- Step 1 - calculate height \times height.
- Step 2 - divide weight by your answer to Step 1.

Height must be in metres and weight in kilograms.

Calculate the BMI for a person who has:

- weight 64 kg
- height 1.60 m

[3 marks]

$$1.6 \times 1.6 = 2.56$$

$$64 \div 2.56 = 25$$

Your answer:

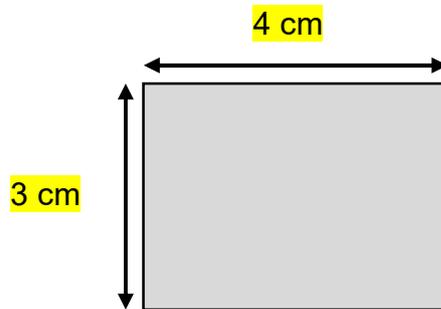
25

14. John is opening a healthy-eating café.

He looks for a property with a seating area for 20 customers.

This is a scale plan of the seating area in one property he finds.

The drawing has a scale of 1 centimetre (cm) : 150 cm



The recommended maximum number of customers in a café is the seating area (m²) divided by 1.5

Is this property suitable for 20 customers?

Show how you decide.

[5 marks]

$$4 \times 150 = 600 \text{ cm}$$

$$600 \div 100 = 6 \text{ m}$$

$$3 \times 150 = 450 \text{ cm}$$

$$450 \div 100 = 4.5 \text{ m}$$

$$6 \times 4.5 = 27 \text{ m}^2$$

$$27 \div 1.5 = 18 \text{ customers maximum}$$

Your answer:

No