

1 A taxi company charges a fare of  $F$  pence for a journey lasting  $d$  kilometres, where  $F = 300 + 20d$ .

Sarah travels 12 kilometres in a taxi.

How much does her journey cost, in pounds?

A £5.40

B £3.00

C £54.00

D £30.00

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2 Amelia is baking a cake for her friend's birthday party. The recipe requires her to take the number of eggs needed, multiply it by 2, then add 4 and finally divide the result by 3.

Which of the following expressions shows the result, where  $e$  represents the number of eggs?

A  $((e \times 2) + 4) \div 3$

B  $(e \times 2 + 4) \div 3$

C  $e \times (2 + 4) \div 3$

D  $e \times 2 + (4 \div 3)$

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3 Amir has a collection of 15 model cars.

Each model car is 12.3 cm long.

If Amir lines up all his model cars bumper to bumper, what is the total length of the line?

A 184.5 cm

B 147.6 cm

C 172.2 cm

D 196.8 cm

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4 Amelia is making a cake for her friend's birthday party.

The recipe requires 1.25 kg of flour.

How much is this in grams?

A 1250 g

B 125 g

C 12500 g

D 12.5 g

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5 Liam is planning a charity bike ride to raise money for a local animal shelter.

He estimates that it will take him 15 minutes to cycle to the starting point, then 2 minutes for every kilometre he cycles during the event, and an additional 10 minutes to cycle back home after completing the ride.

Which of the following expressions could Liam use to calculate the total time for the charity bike ride, in minutes, if he cycles  $k$  kilometres during the event?

A  $25 + 2k$

B  $25k$

C  $15k + 10$

D  $15 + 10k$

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**6**

A rectangular garden has a perimeter of 60 metres.

The length and width are both whole numbers of metres. The length is under 16 metres.

Which of the following could not be the width of the garden?

**A** 14**B** 16**C** 17**D** 18

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**7**

A bakery produces 576 cupcakes per day. If they work for 18 days, how many cupcakes will they produce in total?

Following on from this, which of the following calculations is correct?

**A**  $10\,944 \div 18 = (576)18$  **B**  $10\,948 = 18 \times 576 + 576$  **C**  $18 \times 576 + 576 = 10\,368$  **D**  $576 \times 16 + 576 = 10\,368$ 

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**8**

In a science experiment, a solution is created by mixing 0.045 litres of chemical A with a certain volume of water.

If the total volume of the solution is 4.5 litres, how much water was added?

**A** 0.45 litres**B** 4.455 litres**C** 45 litres**D** 4.55 litres

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**9**

Amir is planning a road trip and wants to make sure he has enough fuel.

His car consumes 6.2 litres of petrol per 100 km.

What is the minimum number of whole litres of petrol he should buy to cover a distance of 450 km?

**A** 27.9**B** 28**C** 29**D** 30

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**10**

A taxi company uses the formula  $F = 3 + 1.5d$  to calculate the fare in pounds,  $F$ , for a journey, where  $d$  is the distance travelled in kilometres.

How much would a passenger pay for a 12 kilometre journey?

**A** £21**B** £15**C** £18**D** £24

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