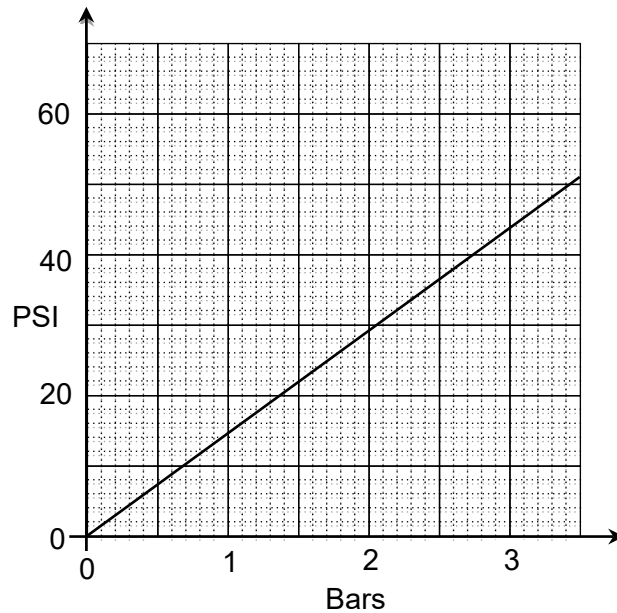


Topic Test 1 (20 minutes)

Real life graphs - Foundation

1 Here is a conversion graph between two units of pressure.



1 (a) A car tyre needs to be at a pressure of 30 psi.

What is this in Bars?

[1 mark]

Answer _____

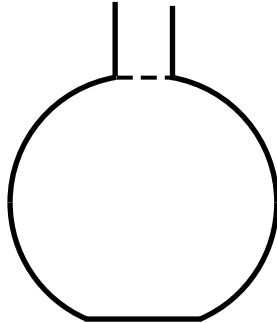
1 (b) A racing bicycle has a recommended pressure of 7.5 Bars.

What is this in psi?

[2 marks]

Answer _____

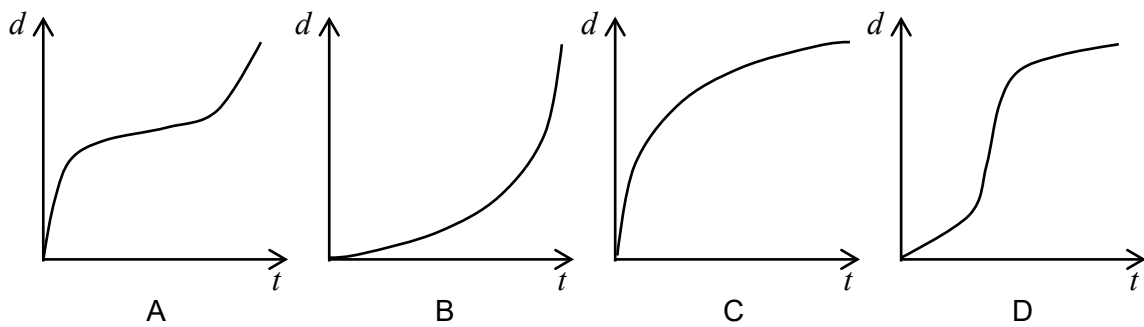
- 2 Water is poured into this container at a constant rate until it reaches the dashed line.



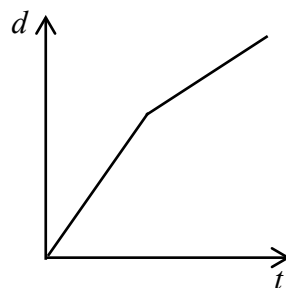
One of these graphs shows the change of the depth, d , of water against time, t .

Circle the correct letter.

[1 mark]



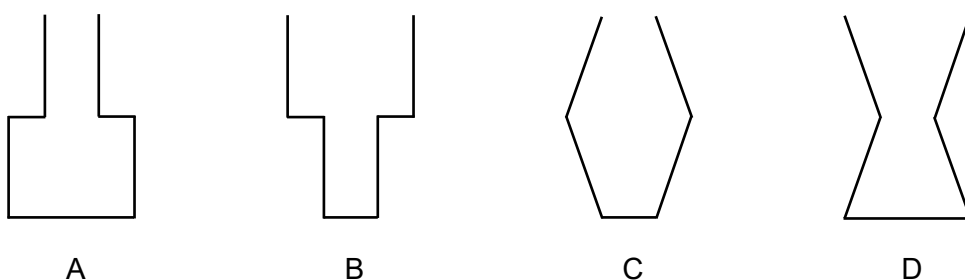
- 3 This graph shows the change of depth, d , of water against time, t , as a container is filled at a constant rate.



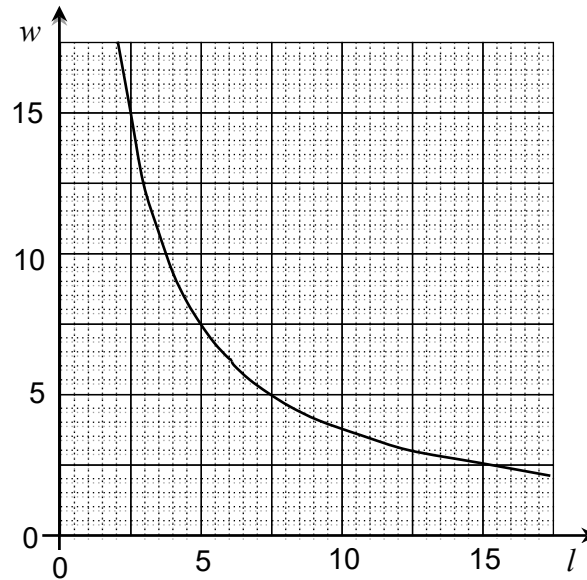
Which of these is the container?

Circle the correct letter.

[1 mark]



- 4 This graph shows the relationship between the width, w cm, and the length, l cm, of a rectangle with a fixed area.



- 4 (a) Write down the width when the length is 5 cm

[1 mark]

Answer _____ cm

- 4 (b) Work out the fixed area of the rectangle.

[1 mark]

Answer _____ cm^2

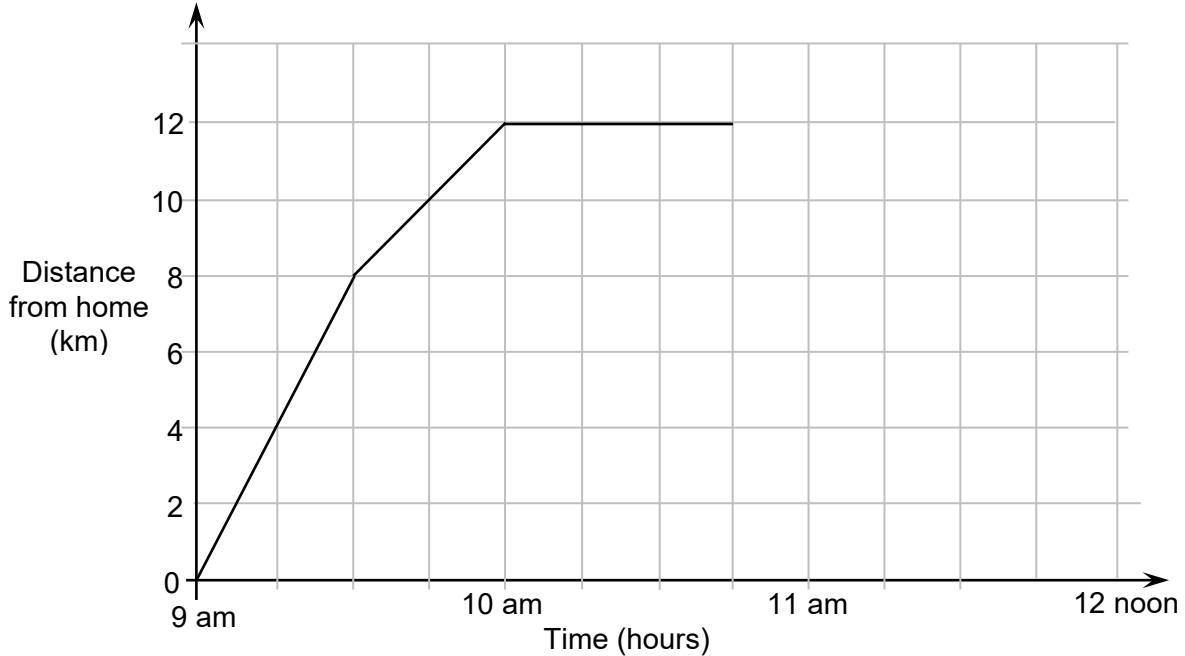
- 4 (c) When the length and width are equal, the rectangle is a square.

Use the graph, or otherwise, to work out the length of the side of the square.
Show clearly how you obtained your answer.

[2 marks]

Answer _____ cm

- 5 Tom cycles to his Grandmother's house, which is 12km from his home. He stays there for 45 minutes. The distance-time graph shows his journey.



- 5 (a) Work out the fastest speed that Tom cycles at on his way to his grandmother's house.

[1 mark]

Answer _____ km/h

- 5 (b) Write down Tom's **average** speed on the way to his grandmother's house.

[1 mark]

Answer _____ km/h

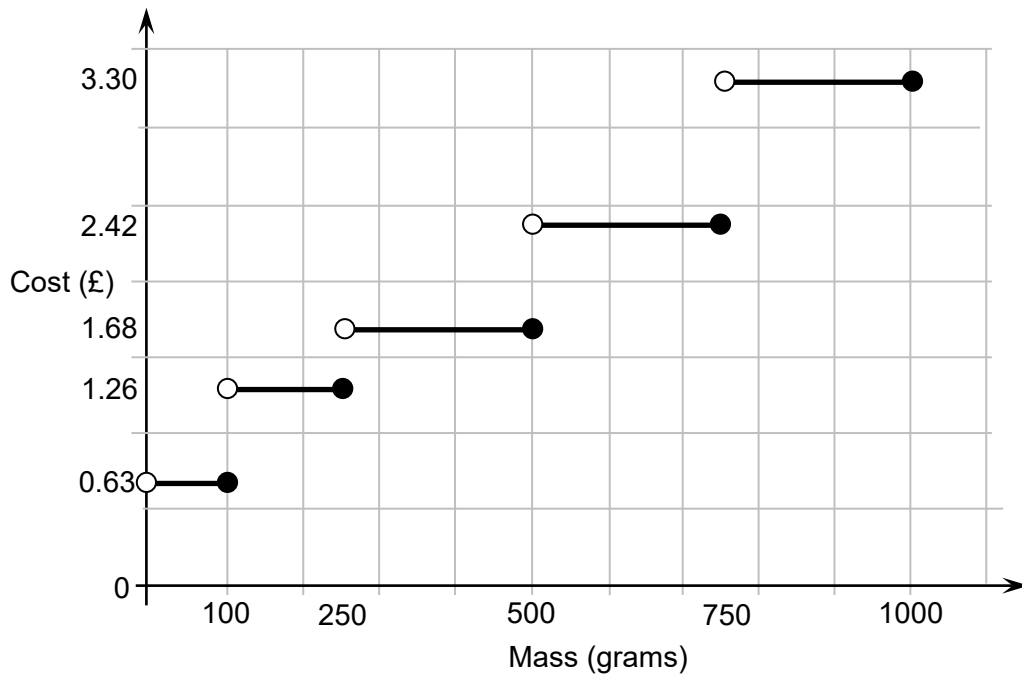
- 5 (c) Tom cycles home at an average speed of 10 km/h.

Does he get home before 12 noon?

Show clearly how you get your answer.

[2 marks]

6 This graph shows first class postal rates.



6 (a) How much does it cost to post a first class letter that has a mass of 300 grams?

[1 mark]

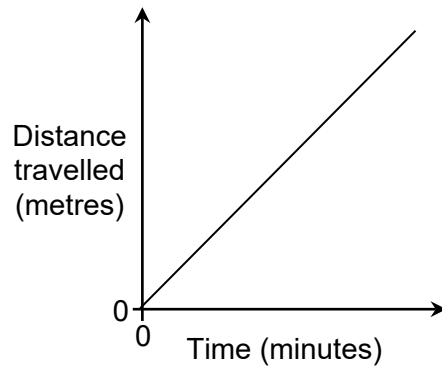
Answer £ _____

6 (b) This type of graph is called a 'step-graph'.

Explain why a step-graph is used to show postal rates.

[1 mark]

7 Here is a graph.



7 (a) What is represented by the gradient of the line?

[1 mark]

Answer _____

7 (b) Write down, in words, the units represented by the gradient of the line.

[1 mark]

Answer _____

8 A tiler uses the graph of $C = 0.25t + 20$ to work out the charge, £ C , for a job that involves fixing t tiles.

8 (a) Write down the gradient of the graph.

[1 mark]

Answer _____

8 (b) What does the gradient of the line represent?

[1 mark]

Answer _____

8 (c) What does the constant term represent?

[1 mark]

Answer _____