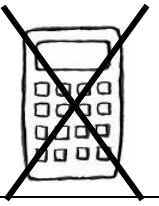
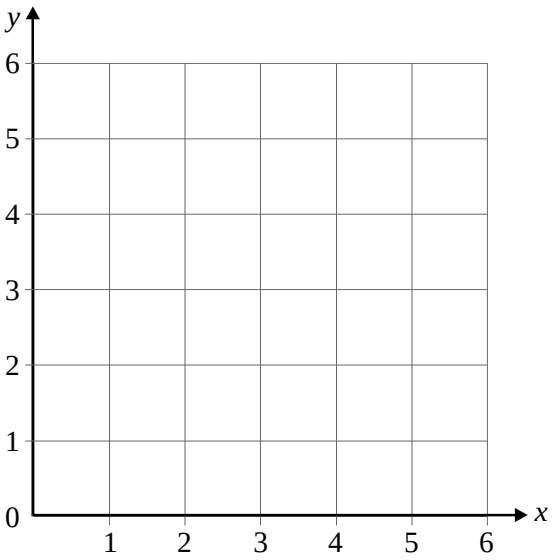
Name:	Teacher Assessment



Section A Coordinate Geometry Grade G / F

1. (a) On the grid plot the points with coordinates (3, 1), (5, 1) and (4, 4).



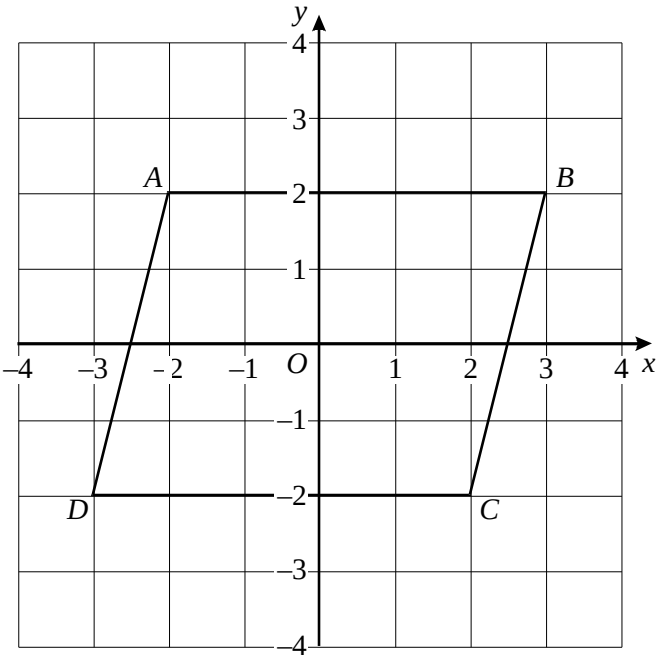
(2)

(b) Join the points and give the mathematical name of the shape.

Answer .....

(1)
(Total 3 marks)

2. The parallelogram *ABCD* is drawn on a centimetre square grid.

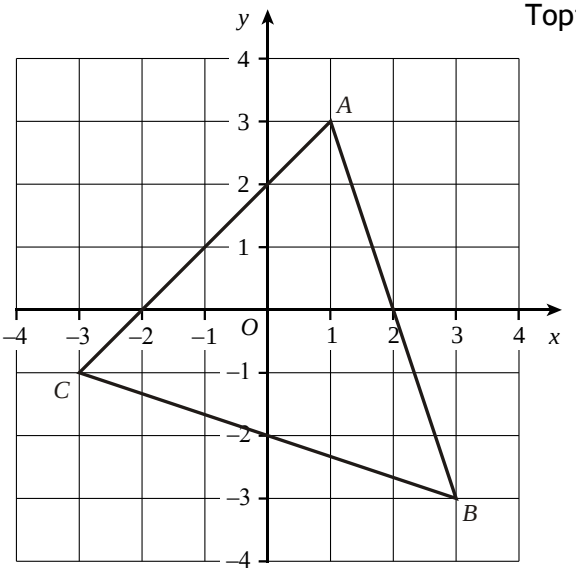


The coordinates of A are (–2, 2). Write down the coordinates of *B*, *C* and *D*.

Answer *B* (....., ...) *C* (....., ...) *D* (....., ...)

(2)
(Total 2 marks)

3. Triangle *ABC* is drawn on a grid.

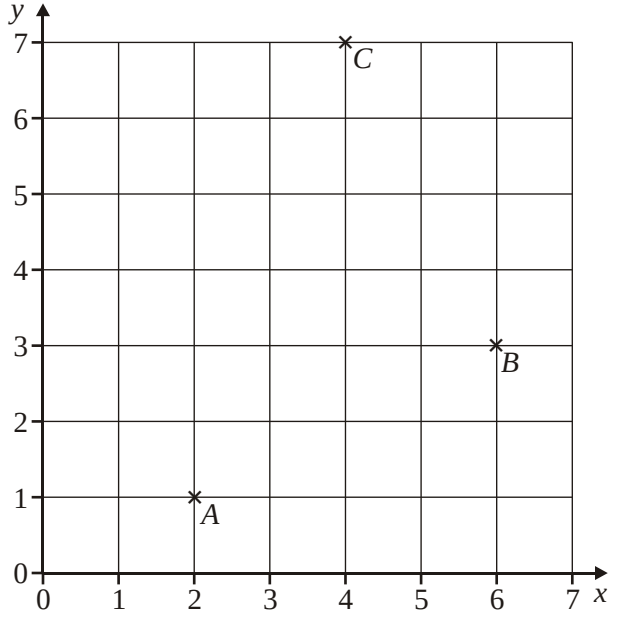


Write down the coordinates of *A*, *B* and *C*.

Answer *A* (……,…….) *B* (……,…….) *C* (……,…….)

(Total 3 marks)

5. Points *A*, *B* and C are three corners of a square *ABCD*.



Success:

Target:

(a) Write down the coordinates of *A*, *B* and *C*.

A (..... , ...) *B* (..... , ...) *C* (..... , ...)

(2)

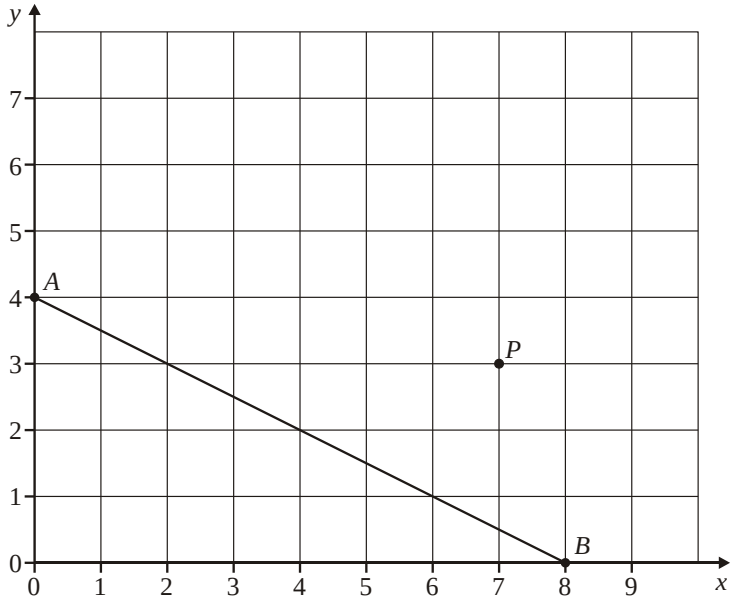
(b) The point *D* (0, 5) is the fourth corner of the square.
Mark, with **X**, the position of the point *D* on the grid.

(1)
(Total 3 marks)

Teacher Assessment

Section B Straight Line Graphs Grade E → C

1. A line *AB* is shown on the grid.



(a) Mark the mid-point of *AB*. Label it *M*.

(1)

(b) Write down the coordinates of *M*.

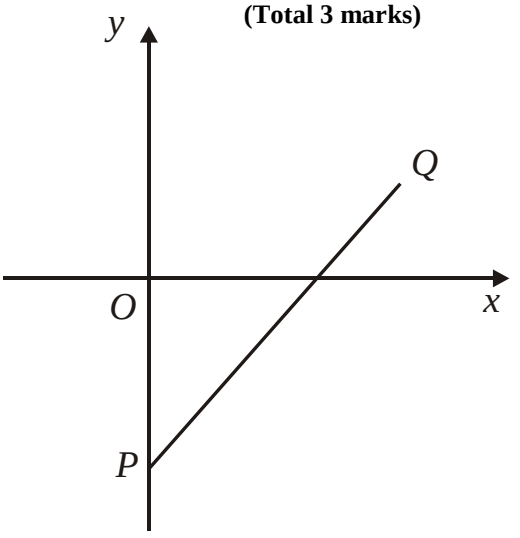
Answer (..... , ...)

(1)

(c) Draw a line through the point *P*, parallel to the line *AB*.

(1)
(Total 3 marks)

2. The diagram shows the points *P* (0, –4) and *Q* (5, 2).



Find the coordinates of the mid-point of the line segment *PQ*.

.....

.....

.....

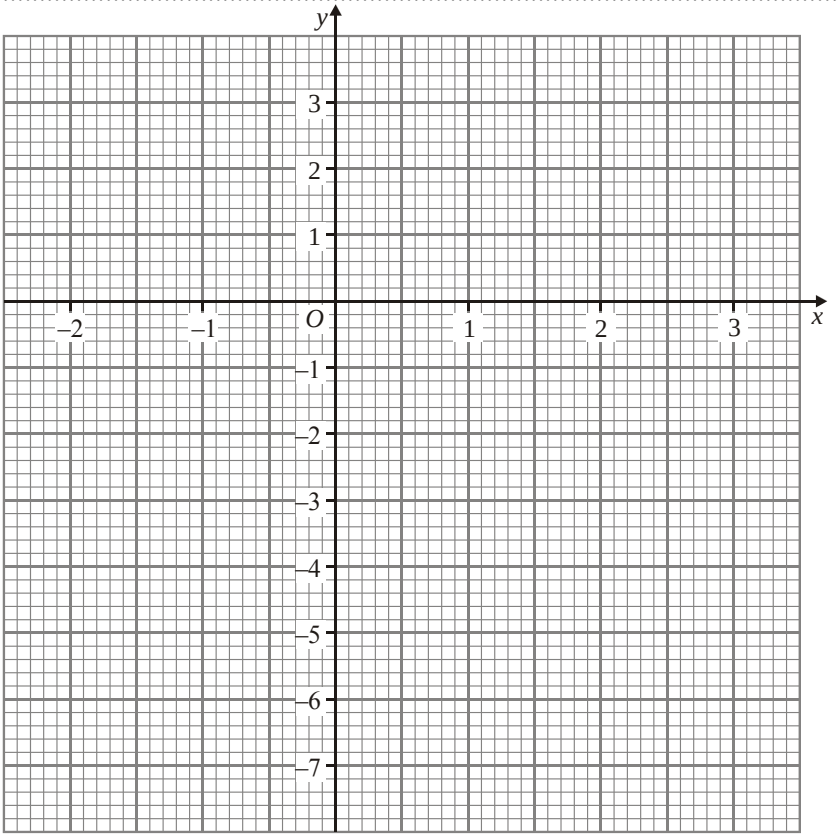
Answer (..... , ...)

(Total 2 marks)

3. (a) On the grid below, draw the graph of $y = 2x - 3$ for values of x from –2 to +3.

.....

.....



(3)

(b) The line $y = 2$ crosses $y = 2x - 3$ at P. Write down the coordinates of P.

Answer (..... , ...)

(1)(Total 4 marks)

4. On the grid below, draw the graph of $y = 7 - x$ for values of x from 0 to 7.

.....

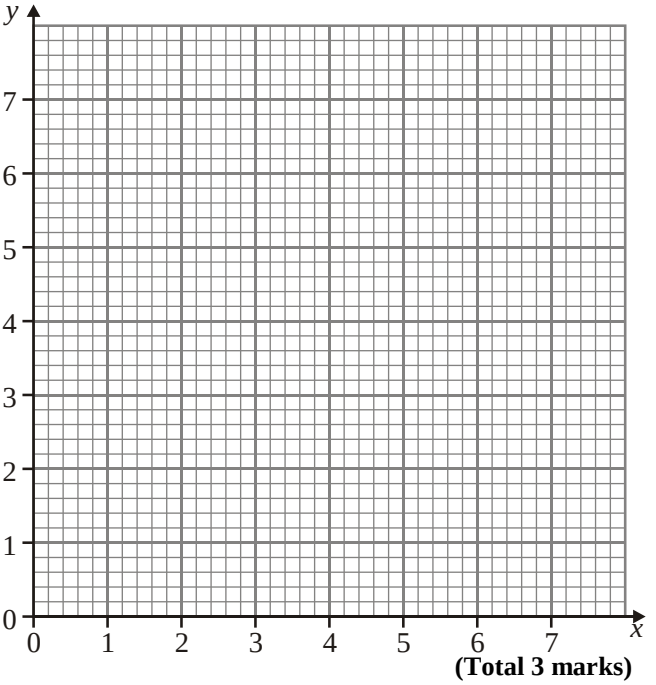
.....

.....

.....

.....

.....



(Total 3 marks)

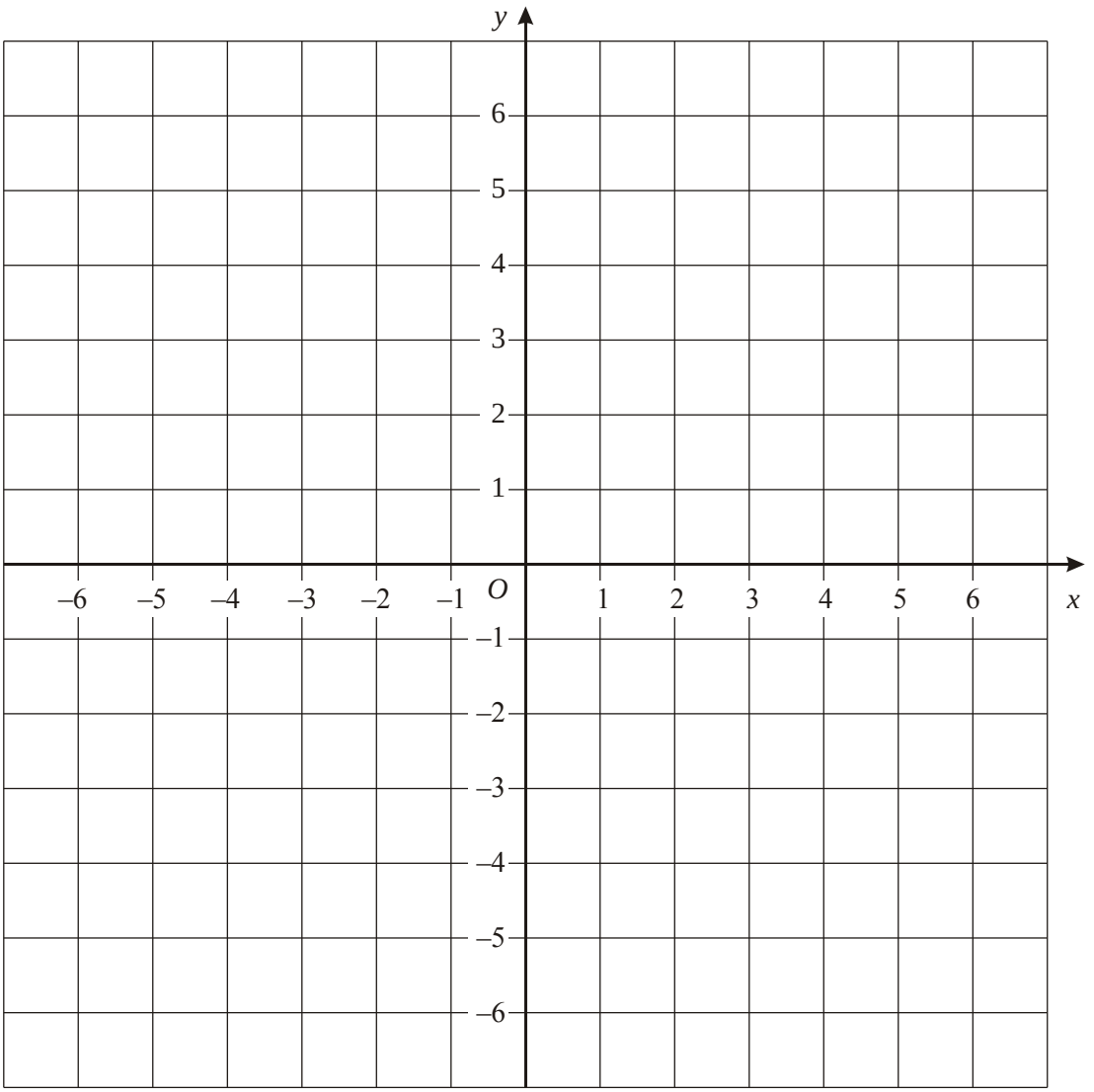
5. The line $y = -3$ crosses the line $y = x - 2$ at the point P.
What are the coordinates of P?
You may use the grid below if you wish.

.....

.....

.....

.....



Answer (....., ...)

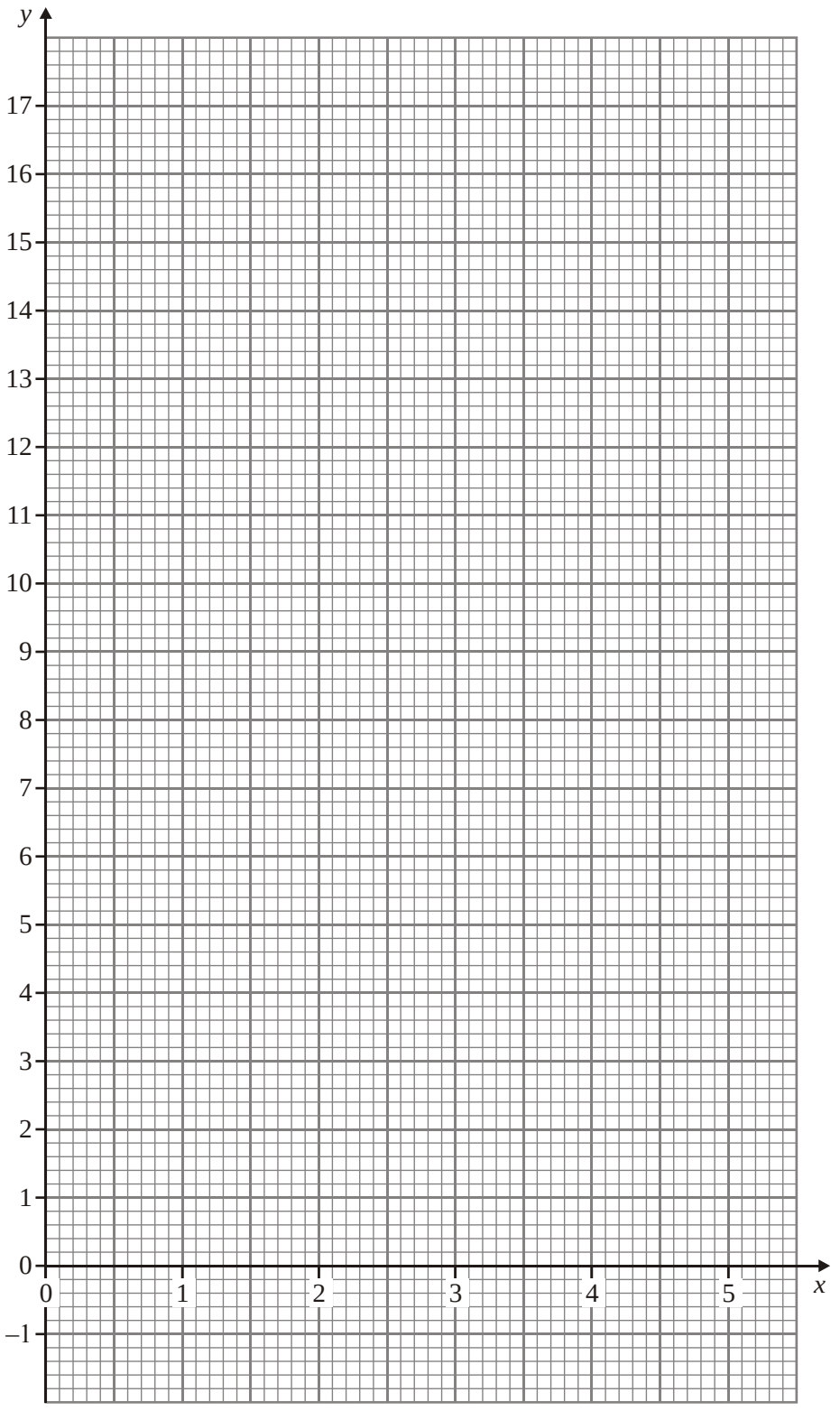
(Total 3 marks)

6. On the grid below draw the graph of $y = 3x - 1$ for values of x from 0 to 5.

……

……

……

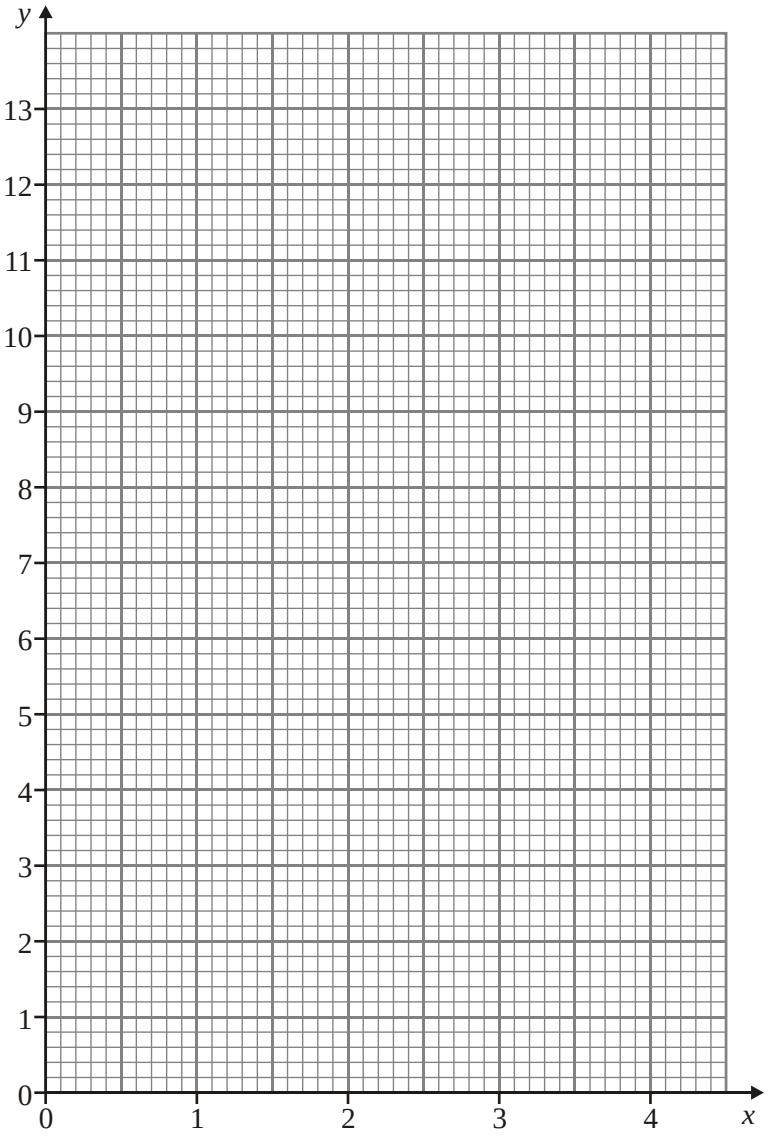


(Total 3 marks)

7. (a) On the grid draw the graph $y = 2x + 3$ for values of x from 0 to 4.

.....

.....



(3)

(b) Solve $2x + 3 = 7.5$

.....

.....

Answer x = ...

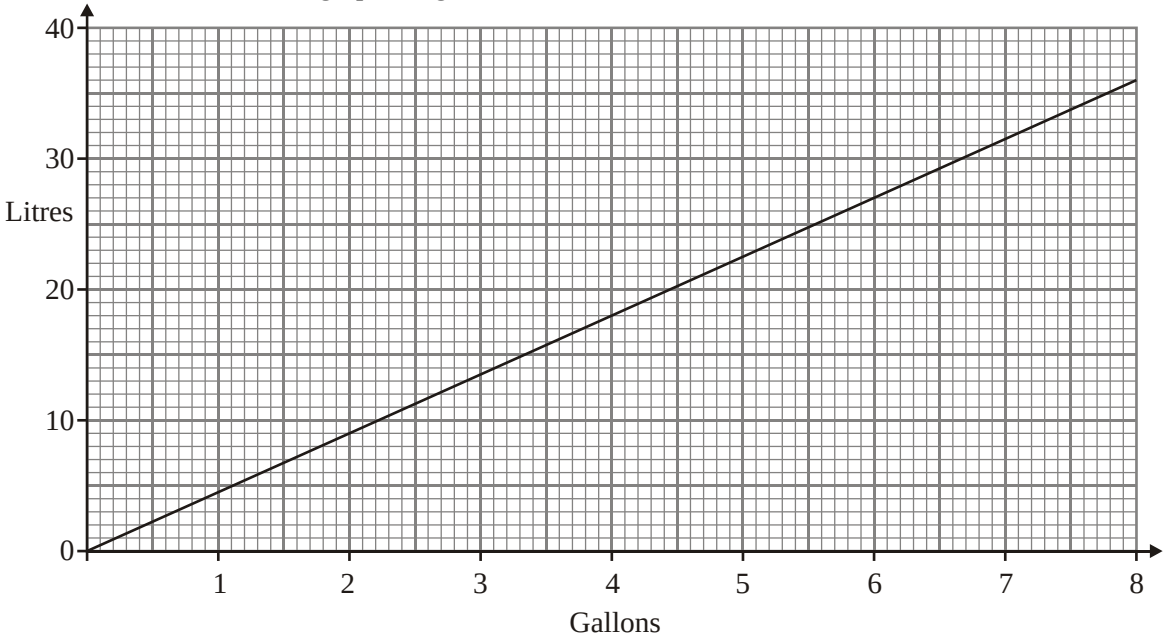
(2)(Total 5 marks)

Success:	Target:

Teacher Assessment

Section C Real Life Graphs Grade F → C

1. This is a conversion graph for gallons and litres.



(a) Use the graph to convert

(i) 4 gallons to litres,

Answer ..... litres

(ii) 30 litres to gallons.

Answer ..... gallons

(2)

(b) 50 gallons is approximately 225 litres.
Explain how you can use the graph to show this.

……

……

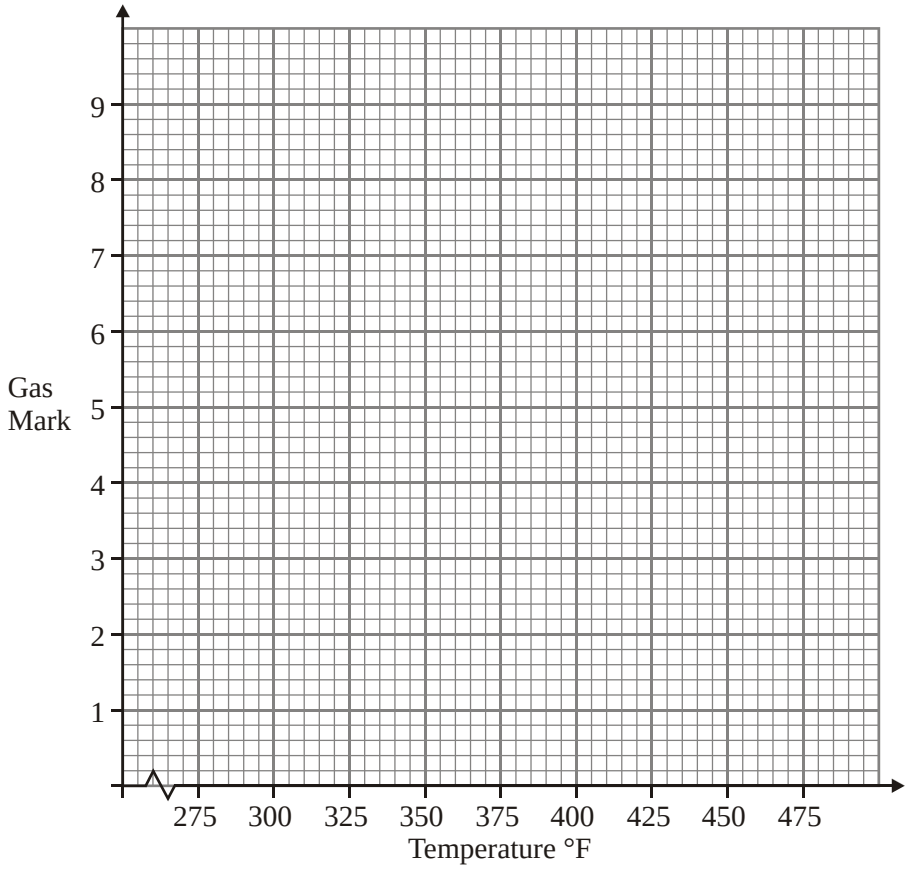
……

(1)
(Total 3 marks)

2. On a gas oven

300°F = Gas Mark 2
and 450°F = Gas Mark 8

(a) Plot these values on the grid.



(2)

(b) Join your points with a straight line.

(1)

(c) Using your conversion graph, or otherwise, work out the Gas Mark for a temperature of 375°F.

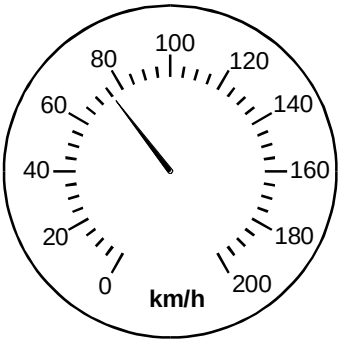
.....

.....

Answer Gas mark .....

(2)
(Total 5 marks)

3. A speed limit in France is 100 kilometres per hour.
The speedometer shows the speed of a lorry.



(a) How much slower than the speed limit is the lorry travelling?

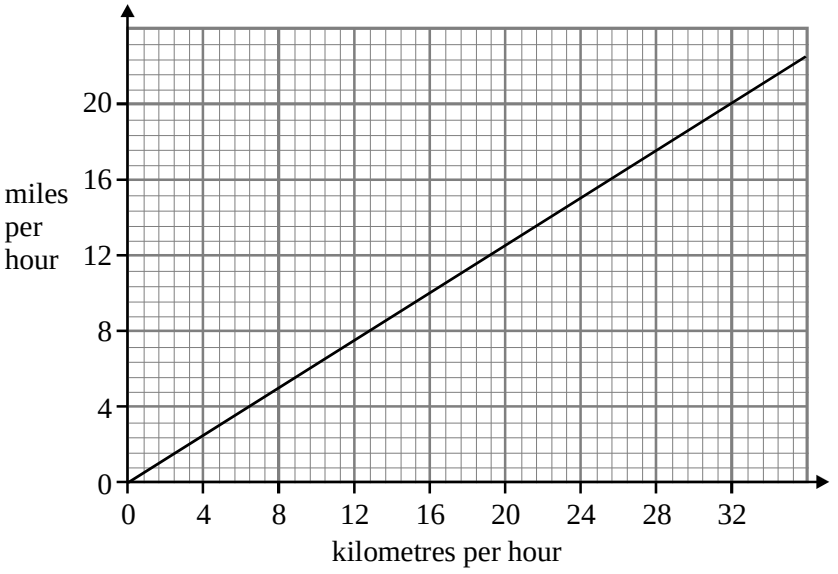
.....

.....

Answer ..... km/h

(2)

(b) (i) Use the graph to convert 32 kilometres per hour into miles per hour.



Answer ..... miles per hour

(1)

(ii) Convert 96 kilometres per hour into miles per hour.

.....

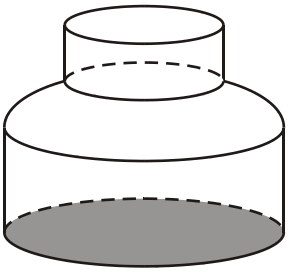
.....

Answer ..... miles per hour

(2)

(Total 5 marks)

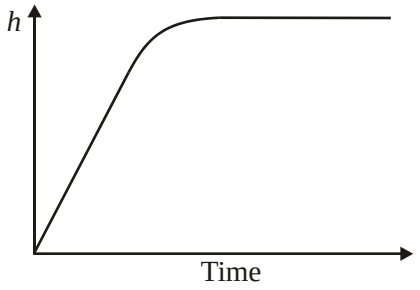
4. (a) Liquid is poured at a steady rate into the bottle shown in the diagram.



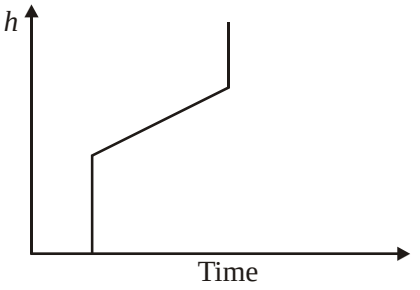
As the bottle is filled, the height, *h*, of the liquid in the bottle changes.

Which of the five graphs below shows this change? Give a reason for your choice.

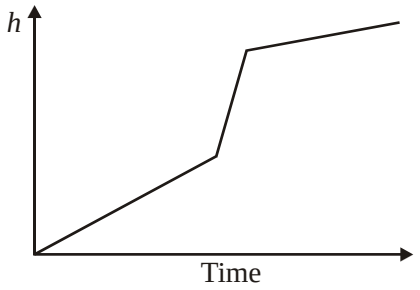
Graph A



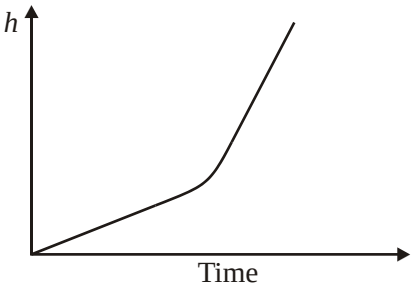
Graph B



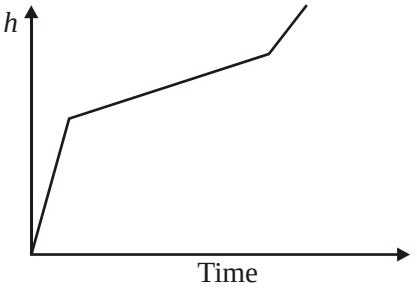
Graph C



Graph D



Graph E



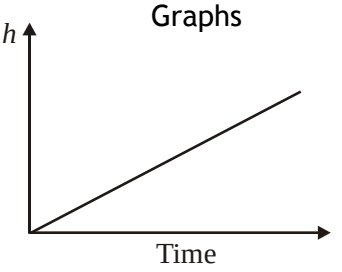
Graph .....

Reason .....

.....

(2)

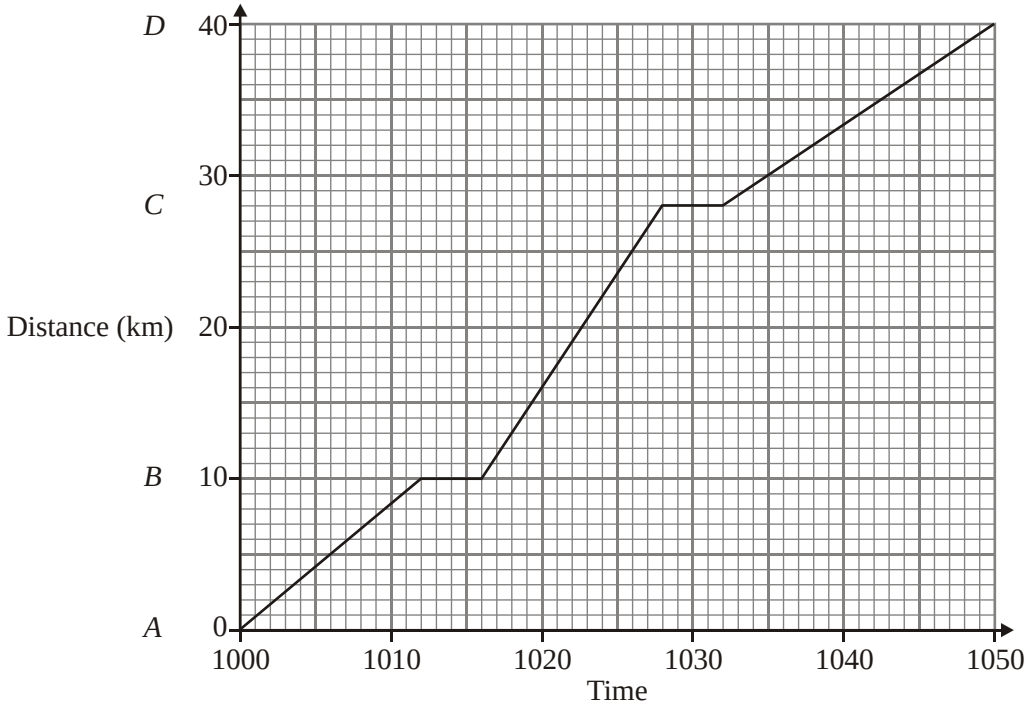
(b) Liquid is poured at a steady rate into another container.
The graph shows how the height, *h*, of the liquid in this container changes.



Sketch a picture of this container.

(1)(Total 3 marks)

5. The graph shows a train journey from *A* to *D*, stopping at *B* and *C*.



(a) What is the time when the train leaves *B*?

Answer .....

(1)

(b) How far is it from *A* to *C* ? Answer ..... km

(1)

(c) During which part of the journey did the train travel the fastest?
Explain your answer.

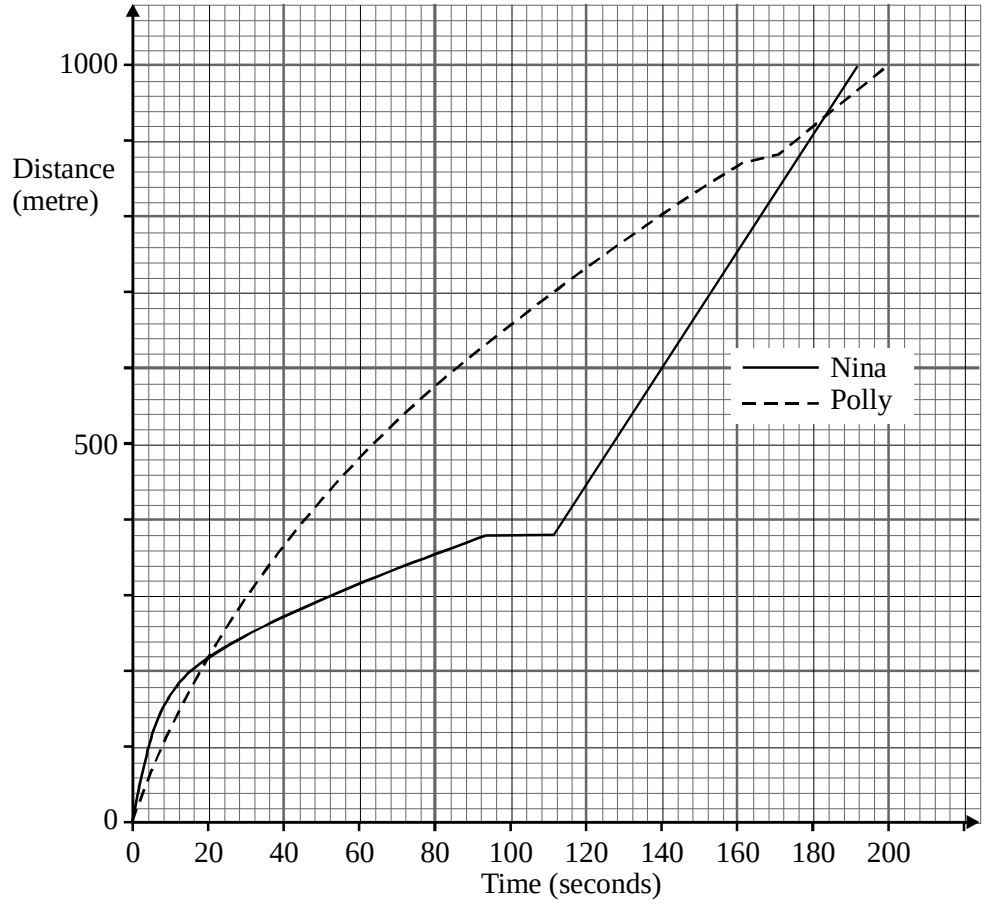
Answer .....

Explanation .....

.....

(2)
(Total 4 marks)

6. The graph illustrates a 1000 metre race between Nina and Polly.



(a) Who was in the lead 10 seconds after the start of the race ?

Answer .....

(1)

(b) Describe what happened 20 seconds after the start of the race.

.....

.....

.....

(1)

(c) Describe what happened to Nina 90 seconds after the start of the race.

.....

.....

.....

(1)

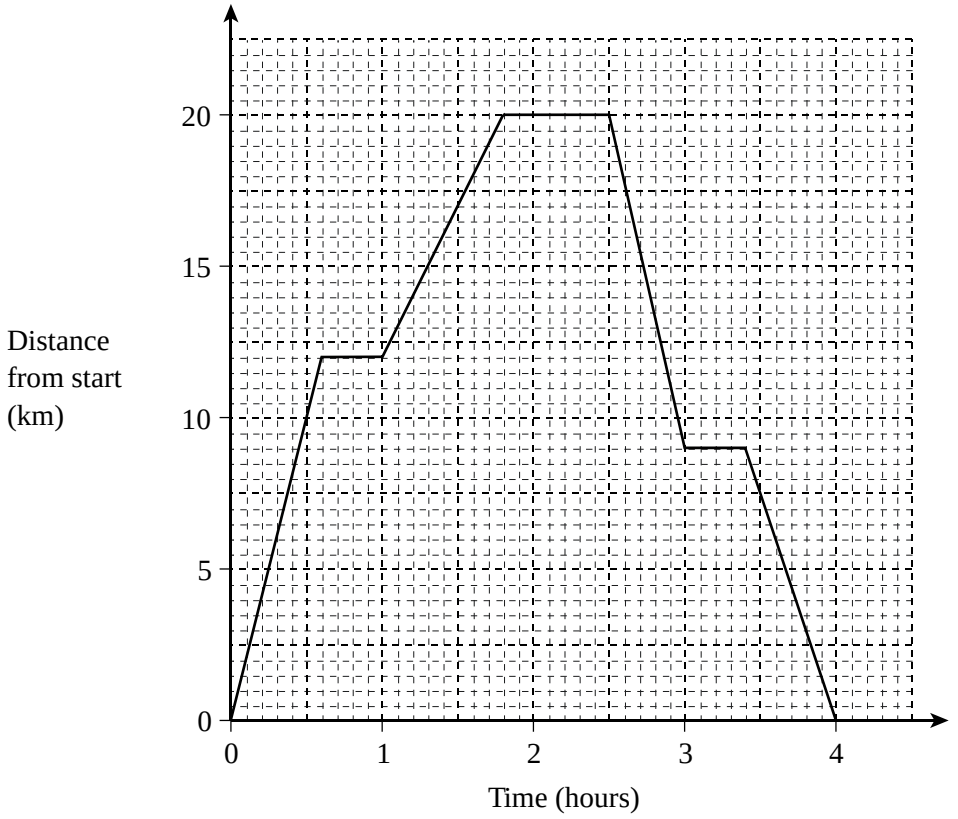
(d) Who won the race?

Answer .....

(1)

(Total 4 marks)

7. The graph shows Adil's bicycle journey.



(a) How many times does Adil stop on his journey?

Answer ……

(1)

(b) How many times is Adil exactly 10 km from the start of his journey?

Answer ……

(1)

(c) What is the total distance that Adil travels on his journey?

Answer …….. km

(1)

(d) Calculate Adil's average speed during the first 30 minutes of his journey.
Give your answer in kilometres per hour.

.....

.....

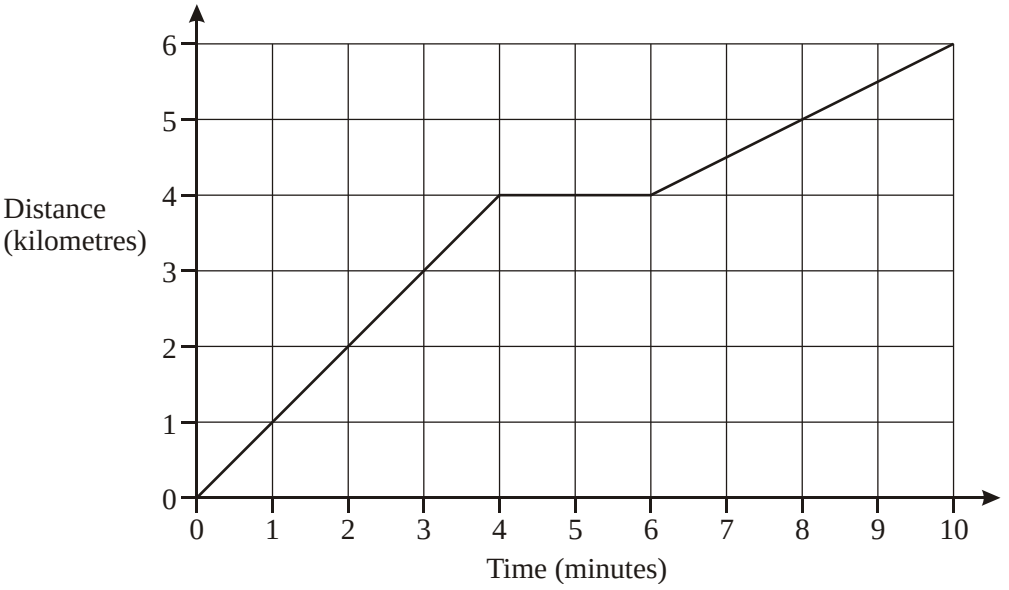
.....

Answer ……km/h

(2)

(Total 5 marks)

8. The distance-time graph shows the journey of a train between two stations.
The stations are 6 kilometres apart.



(a) During the journey the train stopped at a signal. For how long was the train stopped?

.....

Answer ..... minutes

(1)

(b) What was the average speed of the train for the **whole** journey? Give your answer in kilometres per hour.

.....

.....

.....

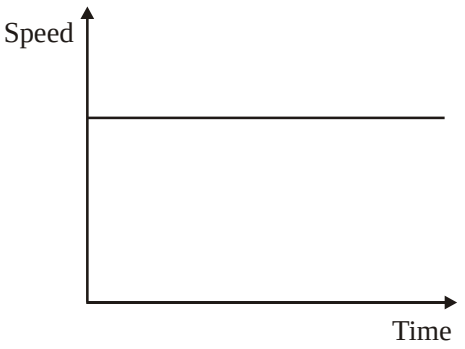
Answer ..... kilometres per hour

(2)

(Total 3 marks)

9. The graphs show two parts of a train journey. Describe in words what is happening in each part.

(a)

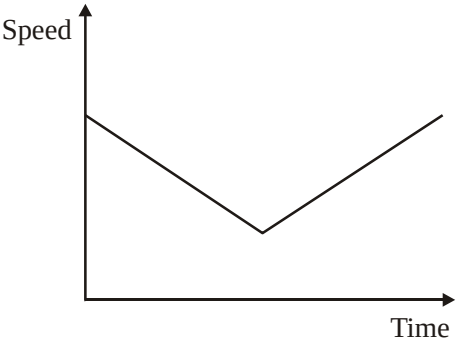


.....

.....

..... (1)

(b)



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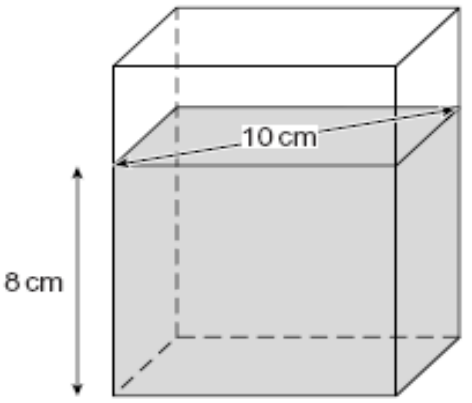
.....(2)

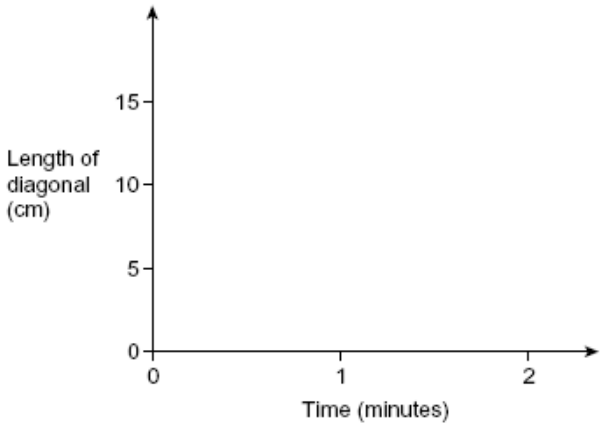
(Total 3 marks)

10. A rectangular tank contains water.
The height of the water is 8 cm.
The length of the diagonal of the surface of the water is 10 cm.
Water is leaking from the tank at a steady rate.

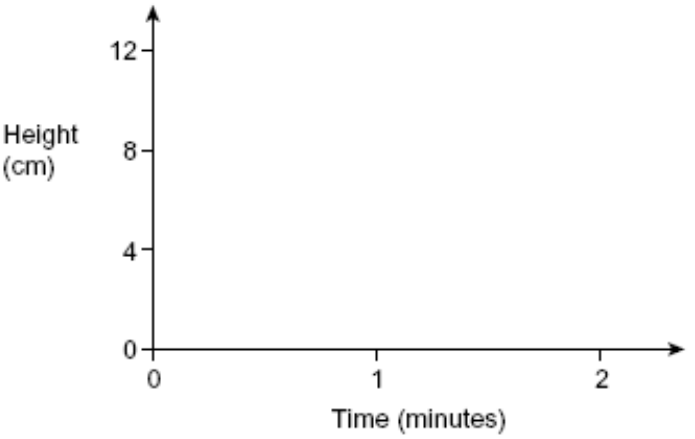
The tank is empty after 2 minutes.



(a) Sketch the graph of the length of the diagonal against the time. **(1 mark)**



(b) Sketch the graph of the height against the time. **(1 marks)**



(Total 2 marks)

Success:	Target: