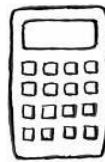


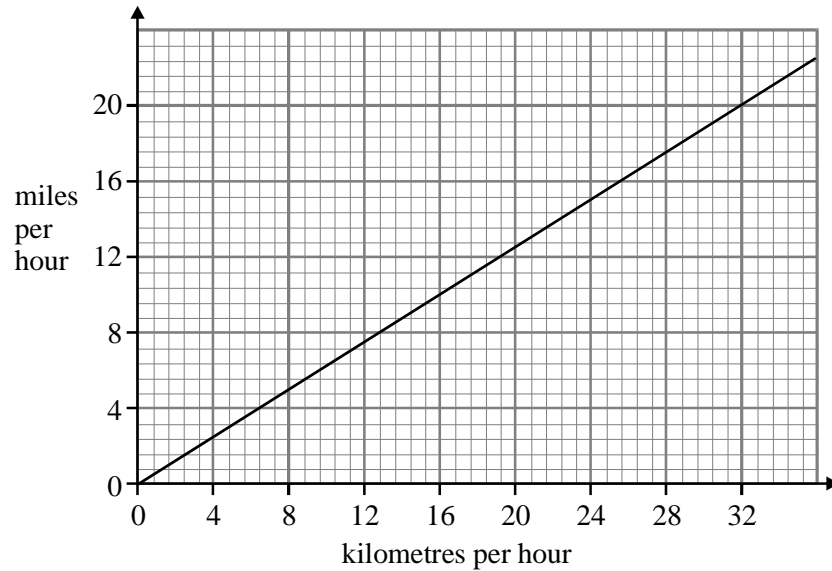
Name:

Teacher
Assessment



Section A **Conversion Graphs** **Grade E / D**

1. (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.

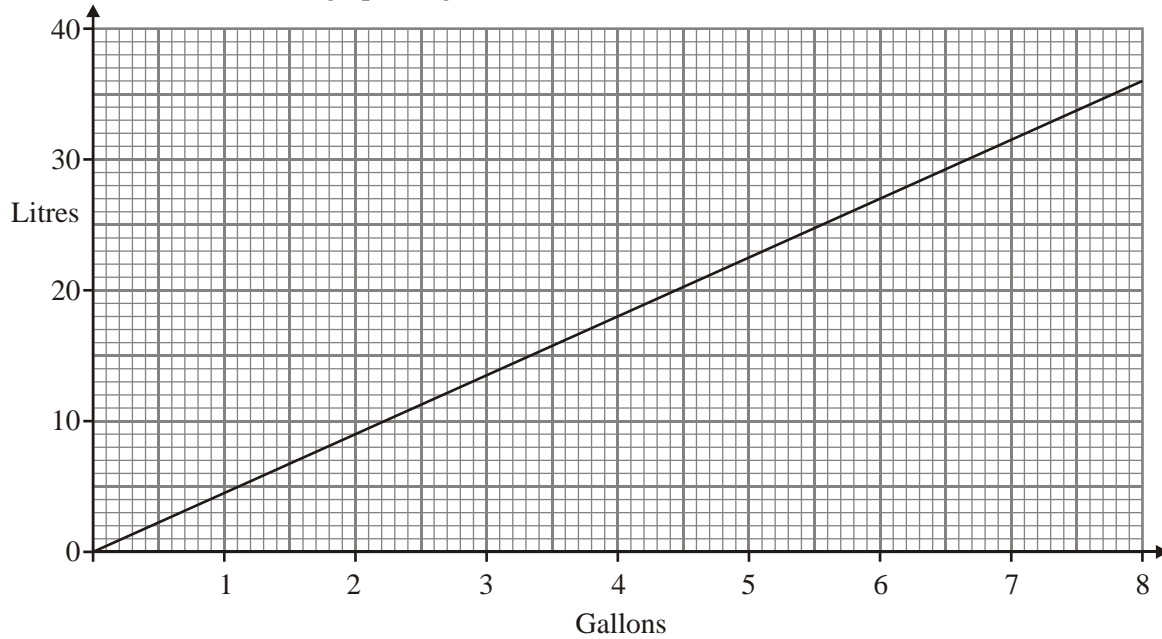
.....
.....

Answer miles per hour

(2)

(Total 3 marks)

2. 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.

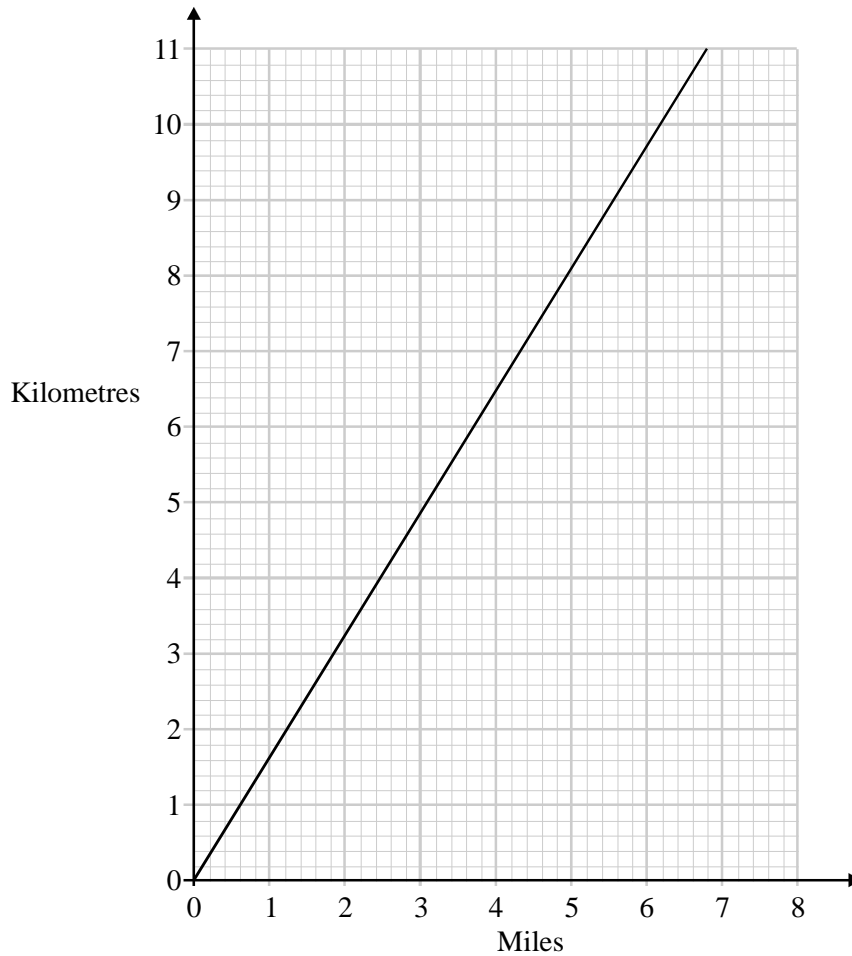
Explain how you can use the graph to show this.

.....

(1)

(Total 3 marks)

3. This graph can be used to convert miles to kilometres.



- (a) Scott lives $3 \frac{1}{2}$ miles from the Post Office.
How many kilometres is this?

Answer.....km

(1)

- (b) Jade goes for a training run of 7 kilometres.
How many miles is this?

Answer.....miles

(1)

- (c) Jade is training to run a half marathon, which is a distance of 13 miles.
Use the graph to calculate this distance in kilometres.

.....
.....
.....

Answer.....km

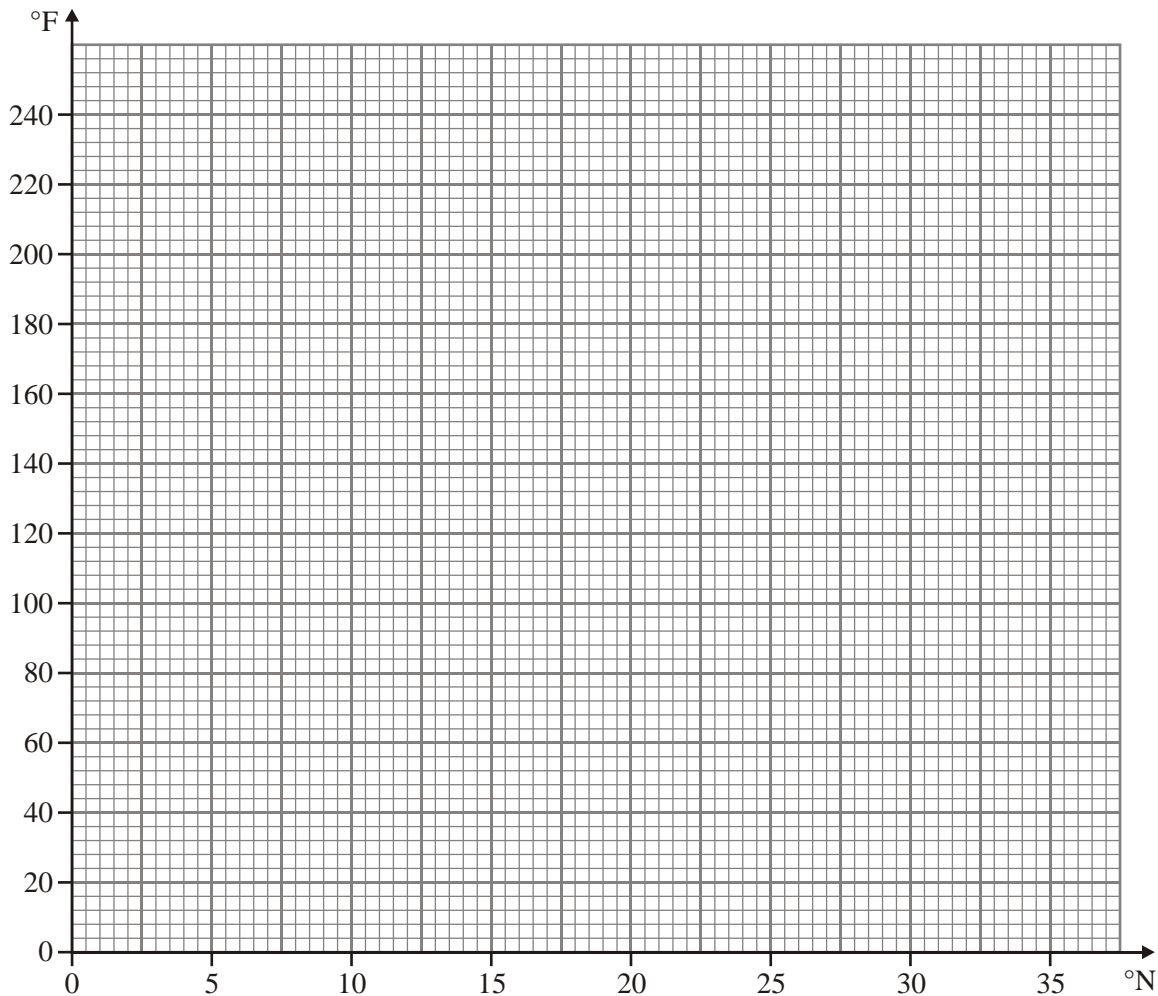
(2)

(Total 4 marks)

4. The table shows various temperatures measured on scales invented by Newton and Fahrenheit.

	Freezing point of water	Boiling point of water
Newton ($^{\circ}\text{N}$)	0	33
Fahrenheit ($^{\circ}\text{F}$)	32	212

(a) Draw a conversion graph on the grid.



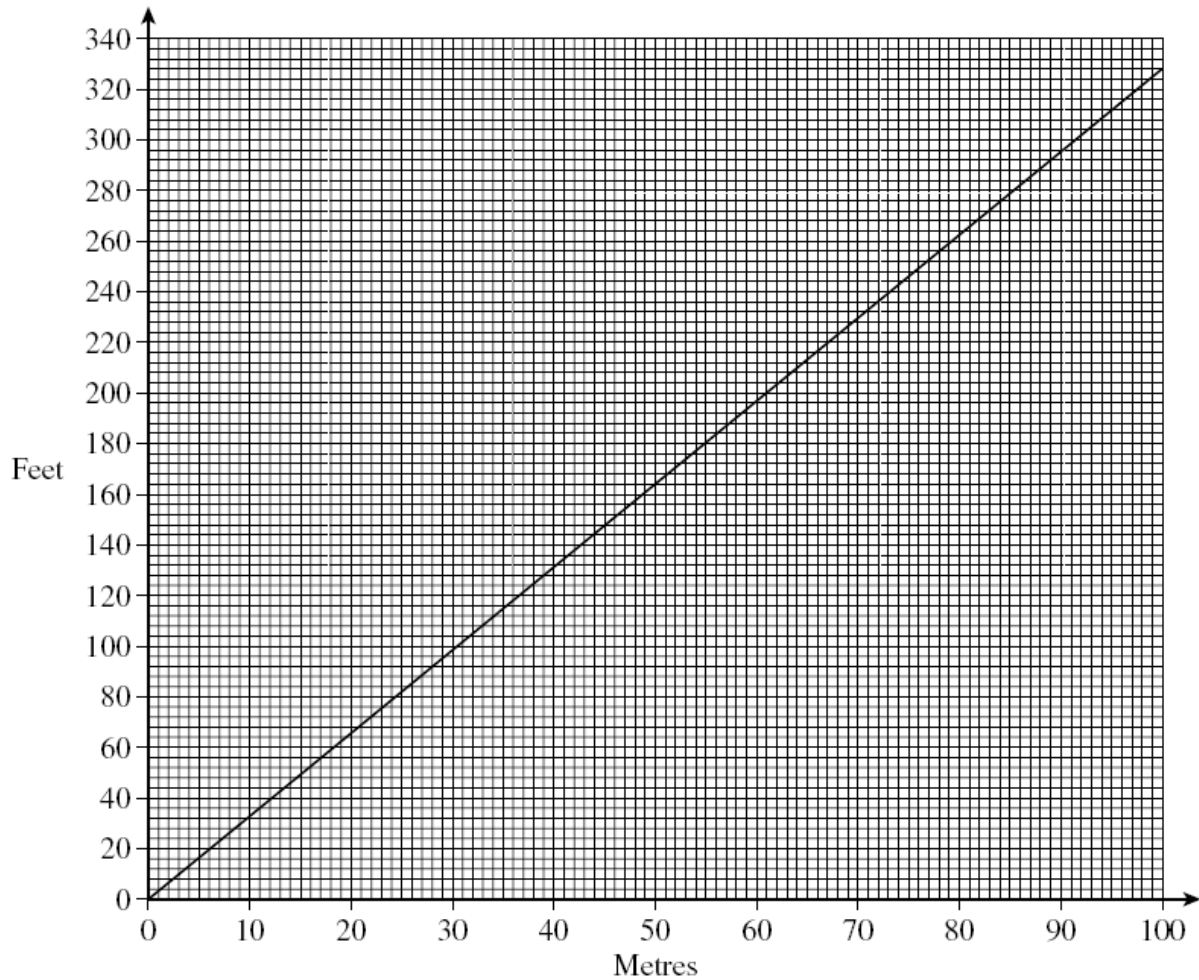
(2)

(b) Blood temperature is 96°F .
What is blood temperature in $^{\circ}\text{N}$?

Answer

$^{\circ}\text{N}$
(1)
(Total 3 marks)

5. A conversion graph for metres and feet is shown.



(a) Use the graph to convert 100 feet to metres.

Answer.....metres

(1)

(b) Use the graph to convert 50 metres to feet.

Answer.....feet

(1)

(c) Convert 200 metres to feet.

.....

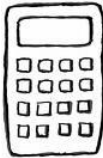
Answer.....feet

(2)

(Total 4 marks)

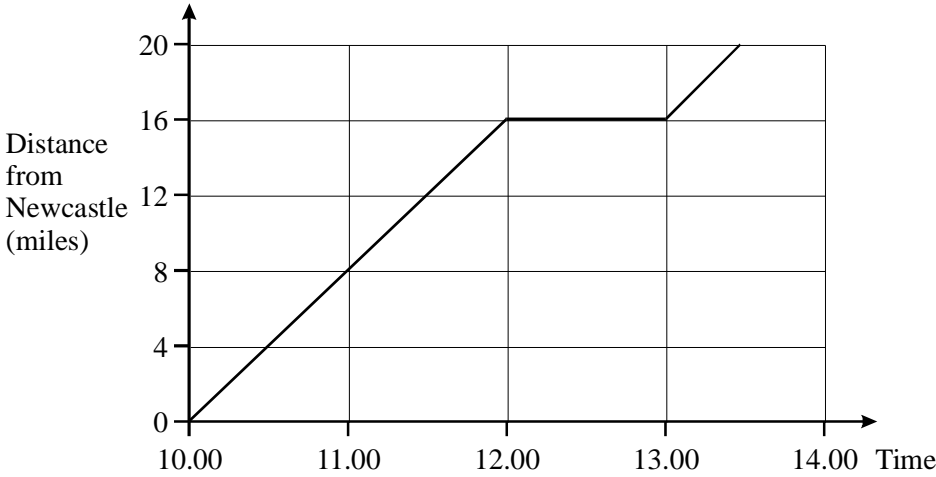
Success:

Target:



Section B Distance-Time and Speed-Time Graphs Grade D / C

1. Wayne cycles from Newcastle to Ashington, a distance of 20 miles.
The diagram shows the distance-time graph of his journey.



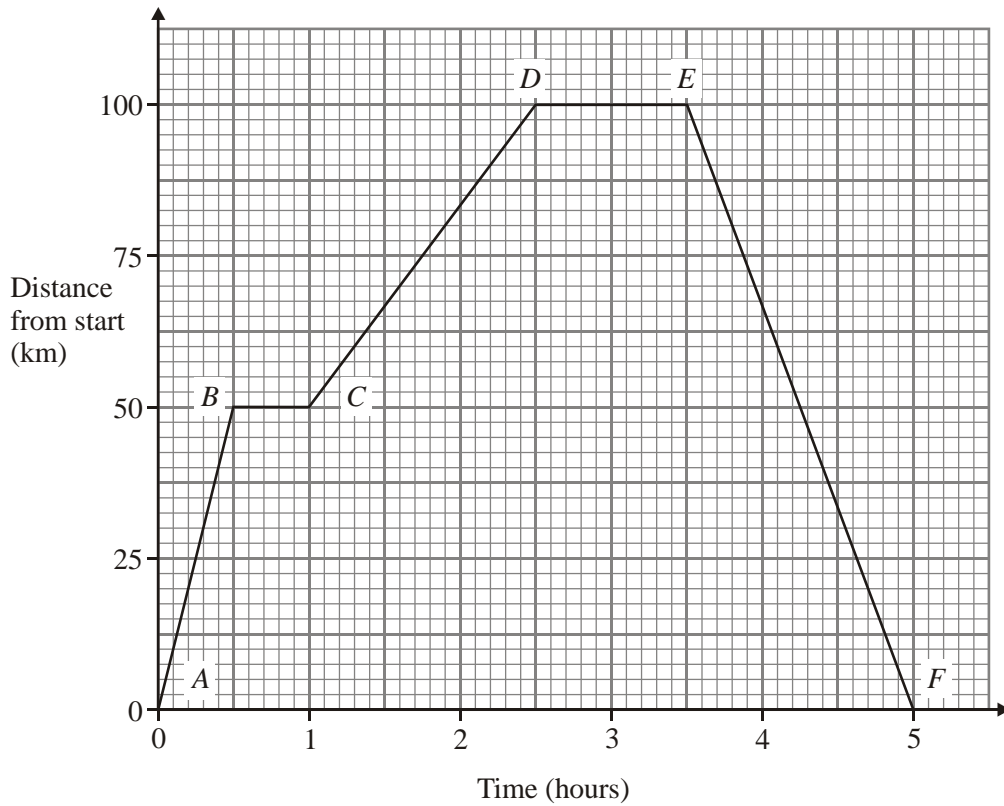
- (a) How far from Newcastle is Wayne at 11.00?
 Answer miles (1)
- (b) Describe what is happening between 12.00 and 13.00

 (1)
- (c) How far does Wayne travel in the first 2 hours of his journey?
 Answer miles (1)
- (d) What is Wayne's average speed over the first 2 hours of his journey?

 Answer mph (2)
- (e) Darren travels from Ashington to Newcastle by bus.
 He leaves Ashington at 10.00 and arrives in Newcastle at 11.00
 On the diagram draw a possible distance-time graph of Darren's journey. (1)

(Total 6 marks)

2. The graph shows a train journey.



(a) What is happening from *B* to *C*?

.....

(1)

(b) Which part of the journey is faster, from *A* to *B* or from *C* to *D*?
Explain your answer.

.....

(1)

(c) How far did the train travel altogether?

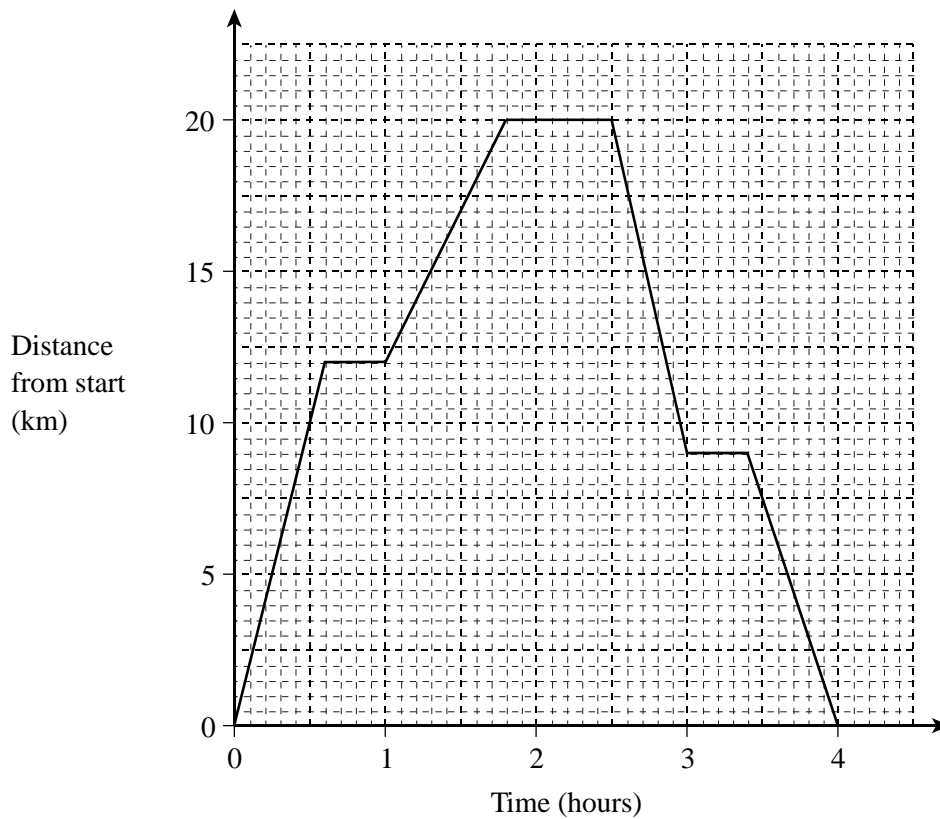
.....

Answer km

(2)

(Total 4 marks)

3. 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)

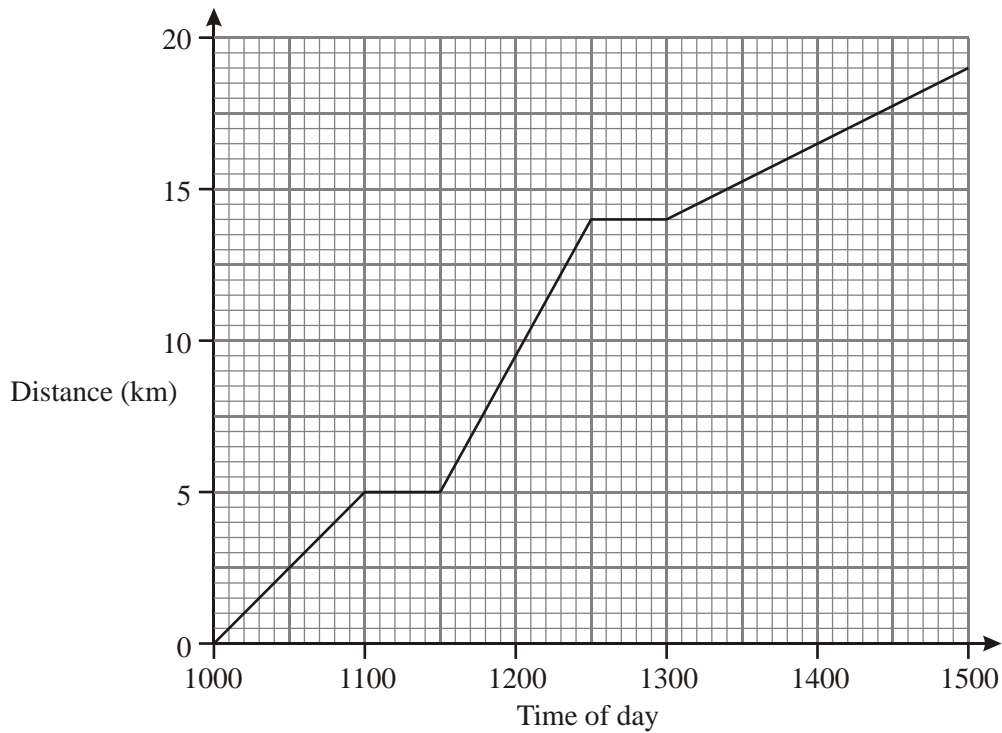
(c) What is the total distance that Adil travels on his journey?

Answer km

(1)

(Total 3 marks)

4. The graph shows Amy's progress on a sponsored walk.



(a) How many times does Amy stop during her walk?

Answer.....

(1)

(b) Between which times does Amy walk the fastest?
Explain your answer.

Answer

Explanation

.....

(2)

(c) Bill sponsors Amy for 20 pence per kilometre.
Kate sponsors Amy for 30 pence per kilometre.
How much should Amy collect altogether from Bill and Kate after her walk?

.....

.....

.....

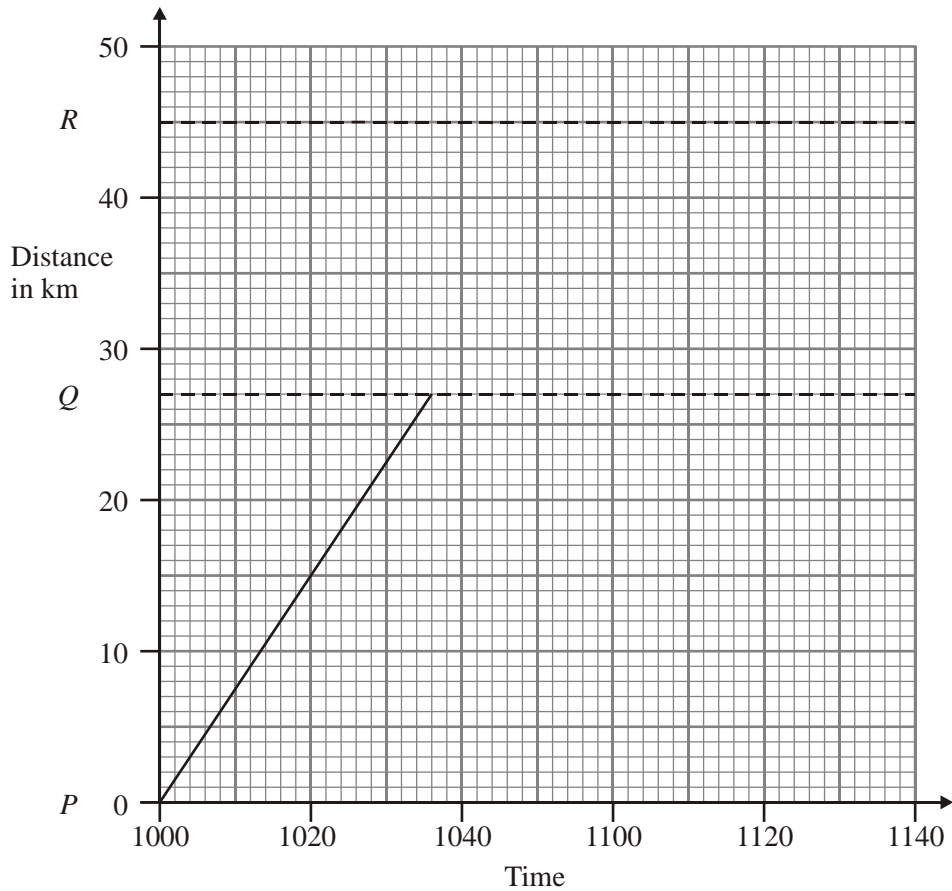
.....

Answer.....

(3)

(Total 6 marks)

5. Mrs Murphy drives from Pyeton (*P*) to Queenswell (*Q*).
The graph shows her journey.



- (a) How far is it from Pyeton to Queenswell?

.....

Answer km

(1)

- (b) At what time does she arrive at Queenswell?

.....

Answer

(1)

- (c) Mrs Murphy stays at Queenswell for 20 minutes.
Then she drives on to Rokeby (*R*) at the same speed as before.

- (i) Show the rest of her journey on the grid.

.....

.....

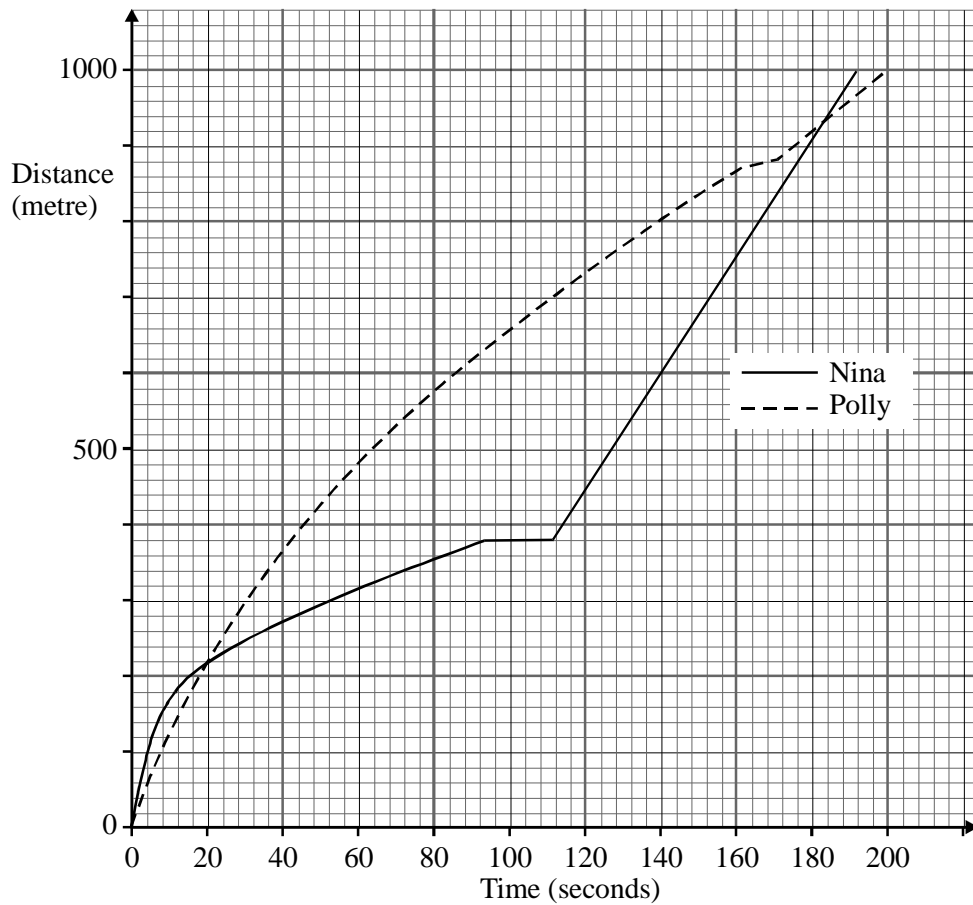
(3)

- (ii) At what time does she arrive at Rokeby?

Answer

(1)(Total 6 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)

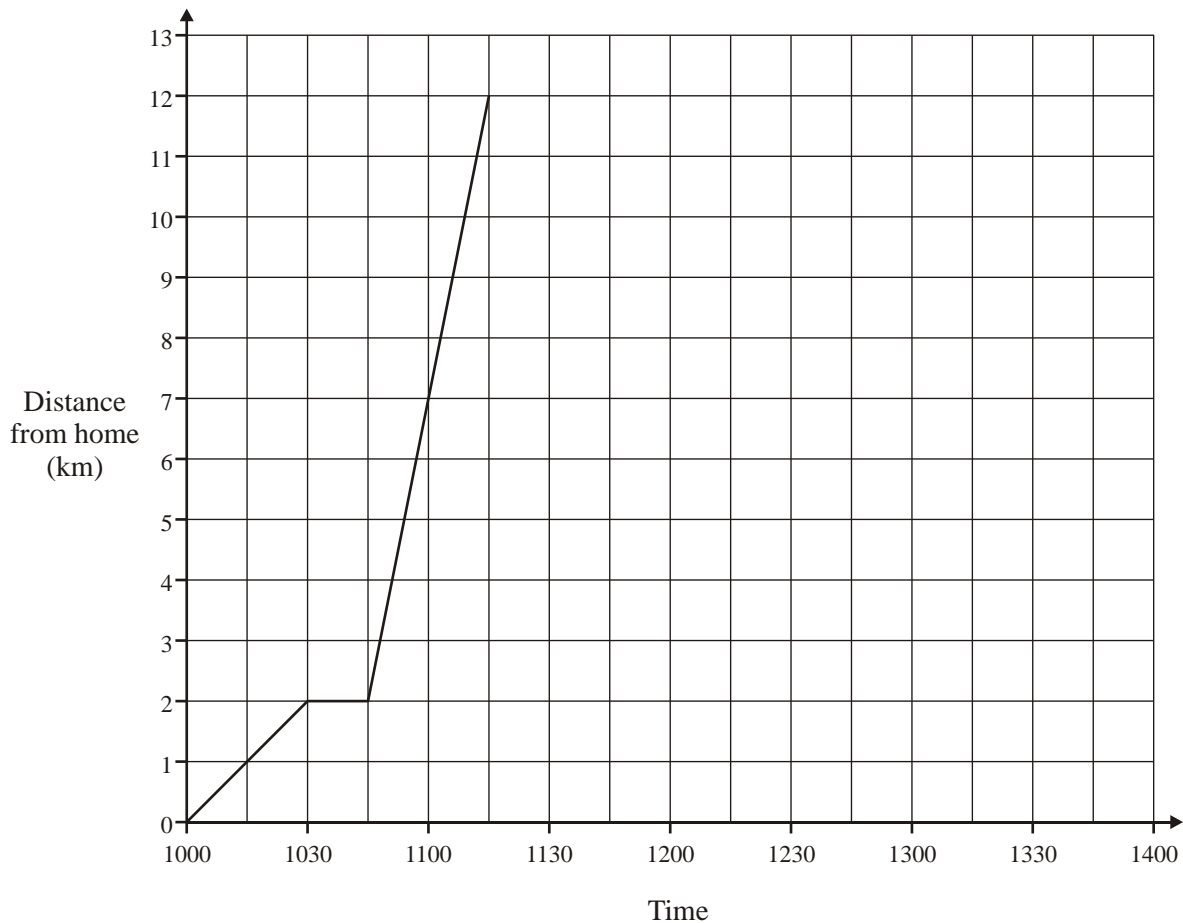
(d) Who won the race?

Answer

(1)

(Total 4 marks)

7. Mr Smith leave home at 10 am to go to the shopping mall.
He walks to the station where he catches a train.
He gets off at the mall.
The travel graph shows his journey.



After shopping Mr Smith goes home by taxi.
The taxi leaves the mall at 1 pm and arrives at his home at 1.45 pm.

- (a) Complete the travel graph.

(2)

- (b) Calculate the average speed of the taxi.

.....
.....

Answer km per hour

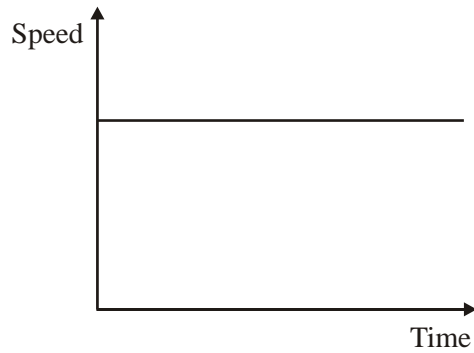
(2)

(Total 4 marks)

8. The graphs show two parts of a train journey.

Describe in words what is happening in each part.

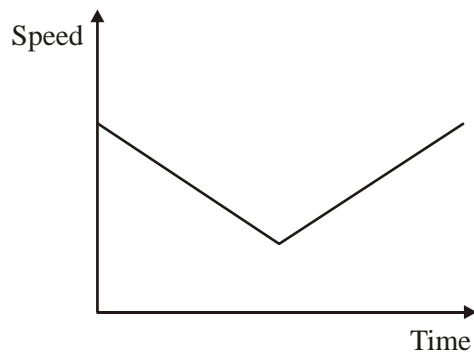
(a)



.....
.....

(1)

(b)



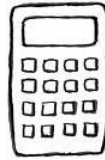
.....
.....

(2)

(Total 3 marks)

Success:

Target:



Section C

Other Real Life Graphs

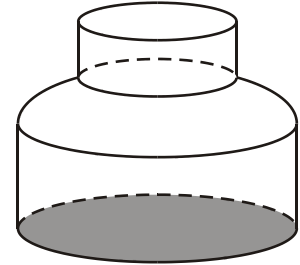
Grade D / C

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

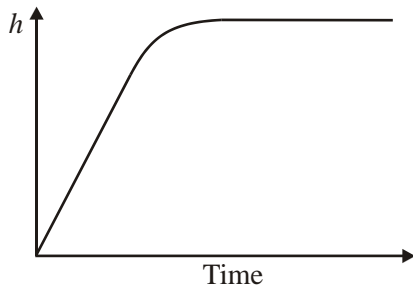
As the bottle is filled, the height, h , of the liquid in the bottle changes.

Which of the five graphs below shows this change?

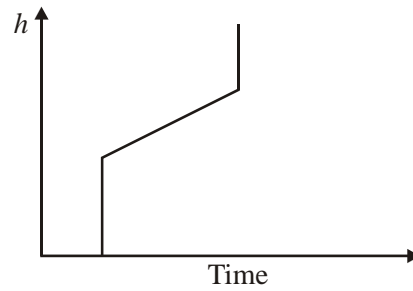
Give a reason for your choice.



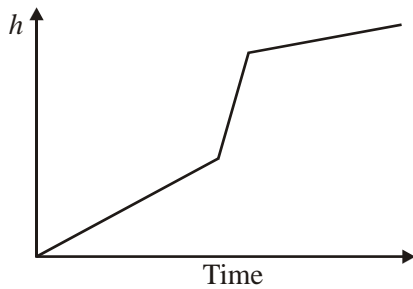
Graph A



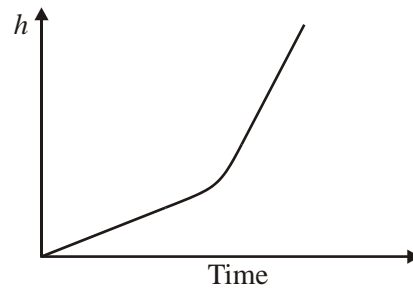
Graph B



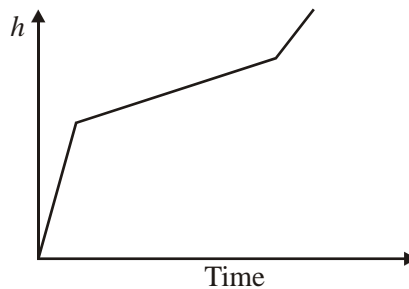
Graph C



Graph D



Graph E



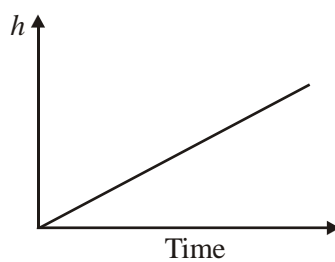
Graph

Reason

.....

(2)

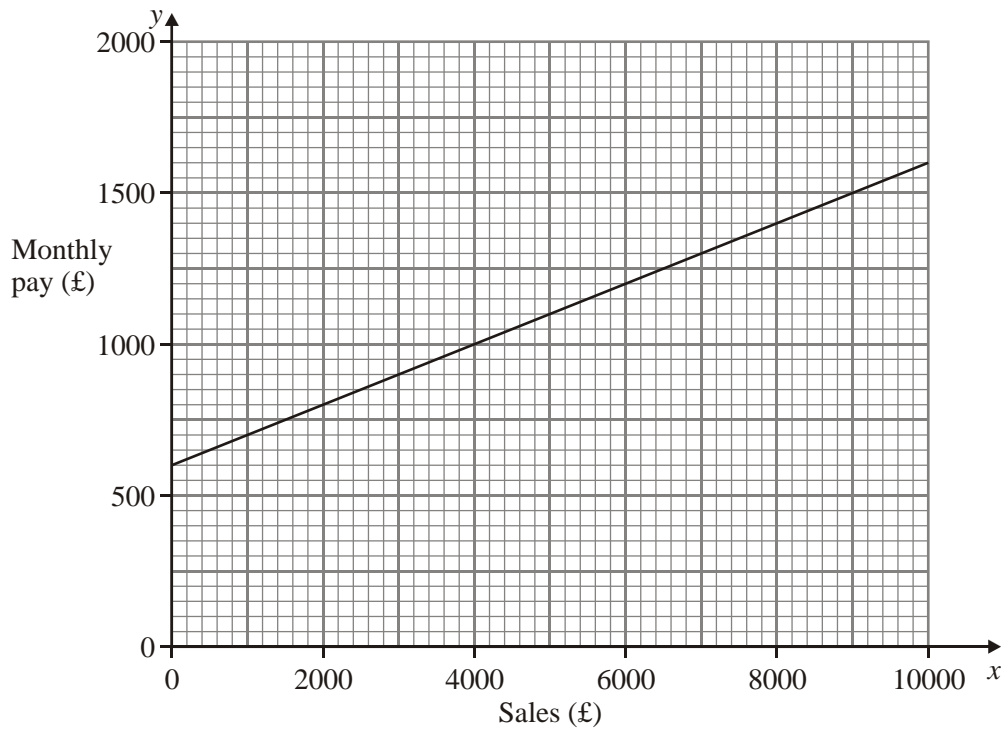
- (b) Liquid is poured at a steady rate into another container.
The graph shows how the height, h , of the liquid in this container changes.



Sketch a picture of this container.

(1)
(Total 3 marks)

2. The graph shows how Ellie's monthly pay depends on her sales.



- (a) Find the equation of the line in the form $y = mx + c$

.....

Answer $y =$

(3)

- (b) Calculate Ellie's pay when her sales are £16 000.

.....

Answer £

(2)

(Total 5 marks)

3. Pete is a plumber.
He works out the charge (£), for each job using this formula.

$$\text{Charge} = 20 \times \text{Number of hours worked} + 40$$

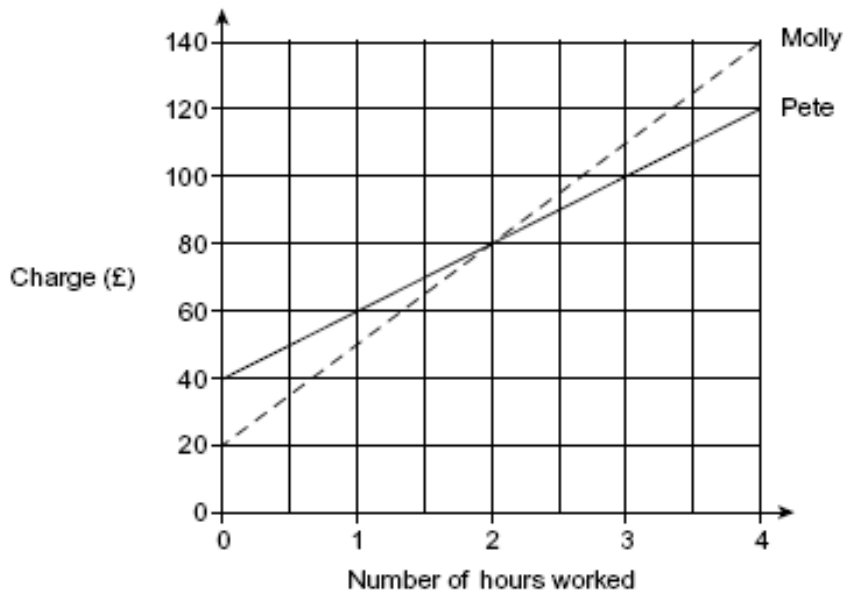
- (a) A job takes five hours.
How much does Pete charge?

.....
.....

Answer £

(2)

- (b) Molly is also a plumber.
The graph shows the charge for jobs by each plumber.



- (b) (i) How much does Molly charge for a job that takes 4 hours?

Answer £

(1)

- (b) (ii) A plumbing job is estimated to take between 1 hour and 2½ hours.
Which plumber, Molly or Pete, would you choose?
Use the graph to give reasons for your answer.

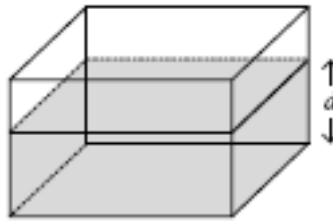
Plumber.....

Reasons.....

.....

(2)(Total 5 marks)

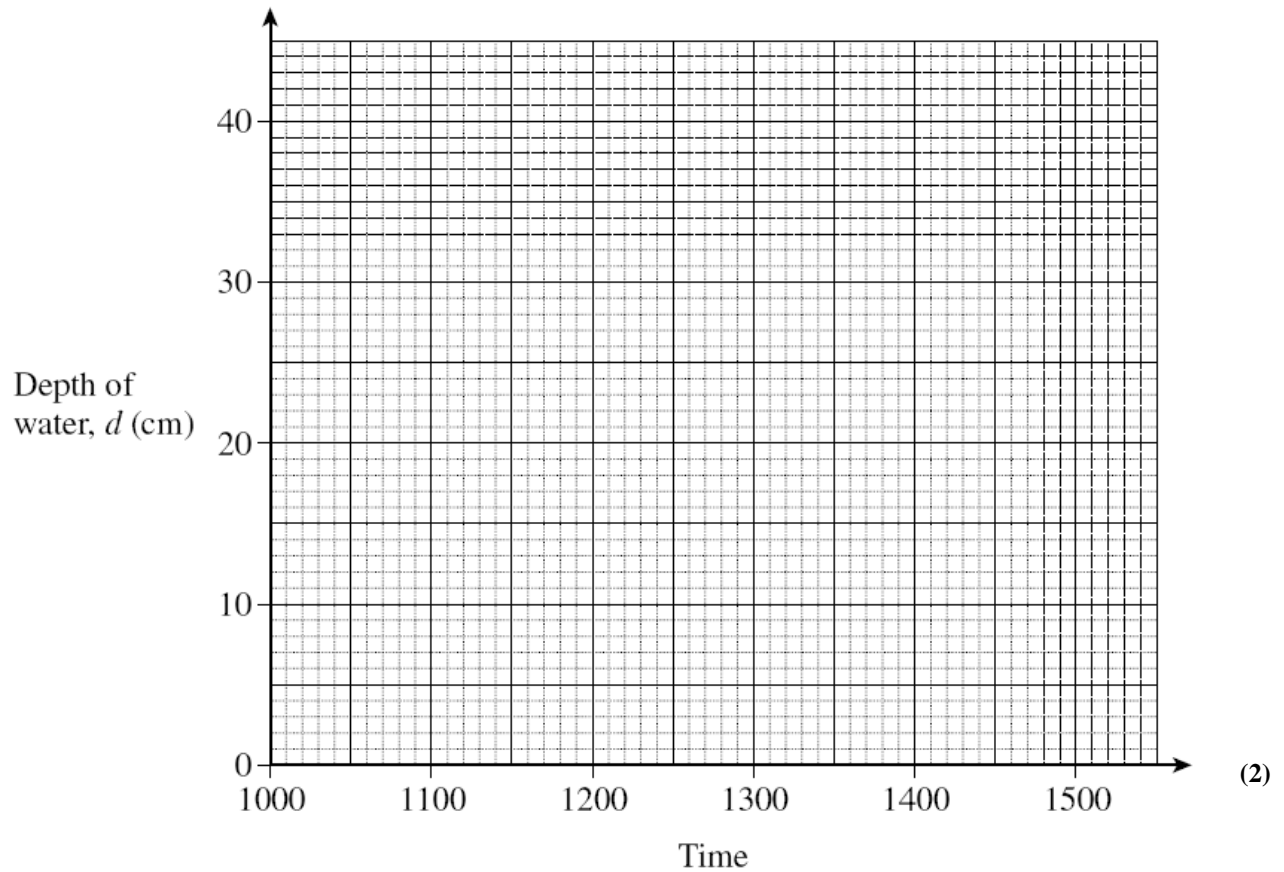
4. Water is leaking from a tank.



The water level is checked three times during the day.
Here are the results.

Time	1000	1100	1230
Depth of water, d (cm)	35	27	15

- (a) Plot these results on the grid and join them with a straight line.



- (b) Use your graph to find the depth of the water at 1036.

Answer

(1)

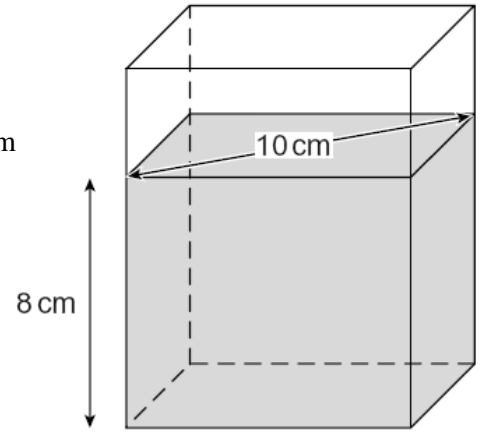
- (c) If the water continues to leak at the same rate, when will the tank be empty?

Answer

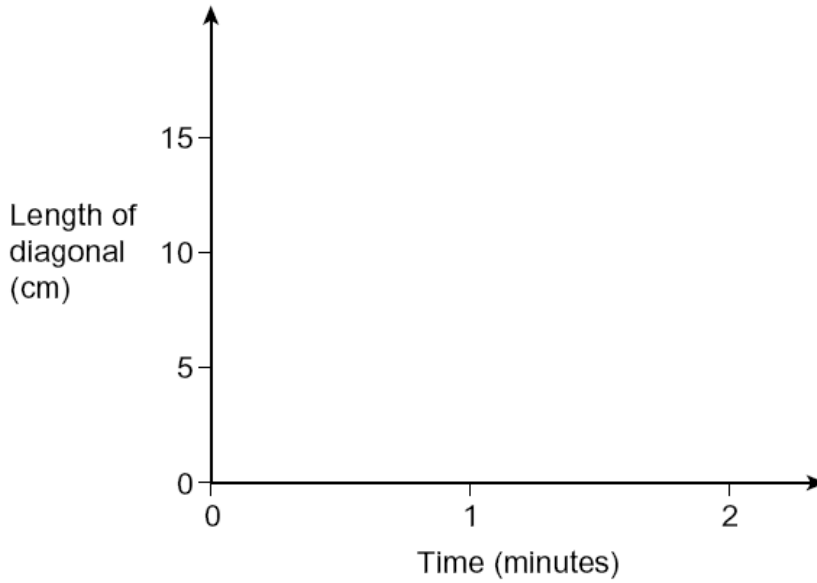
(1)

(Total 4 marks)

5. 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.

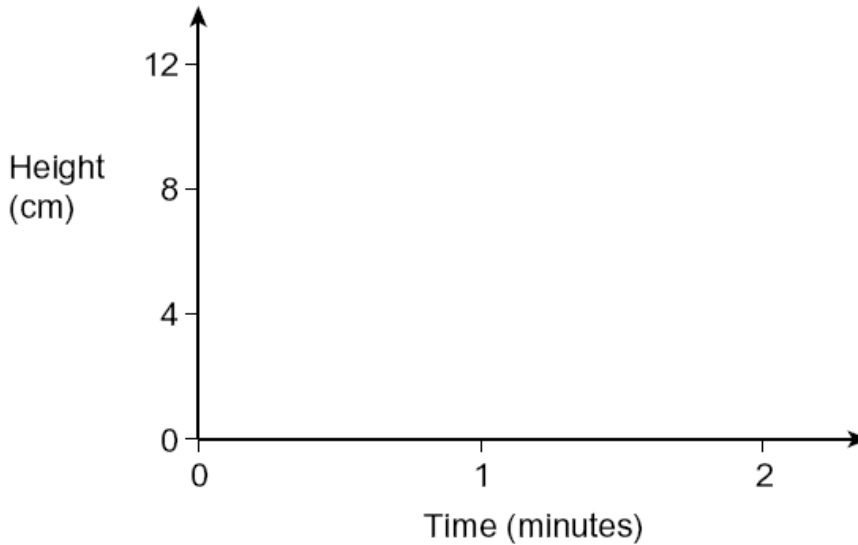


(a) Sketch the graph of the length of the diagonal against the time.



(1)

(b) Sketch the graph of the height against the time.



(1)(Total 2 marks)

Success:

Target: