SCORE

Data & Measurement
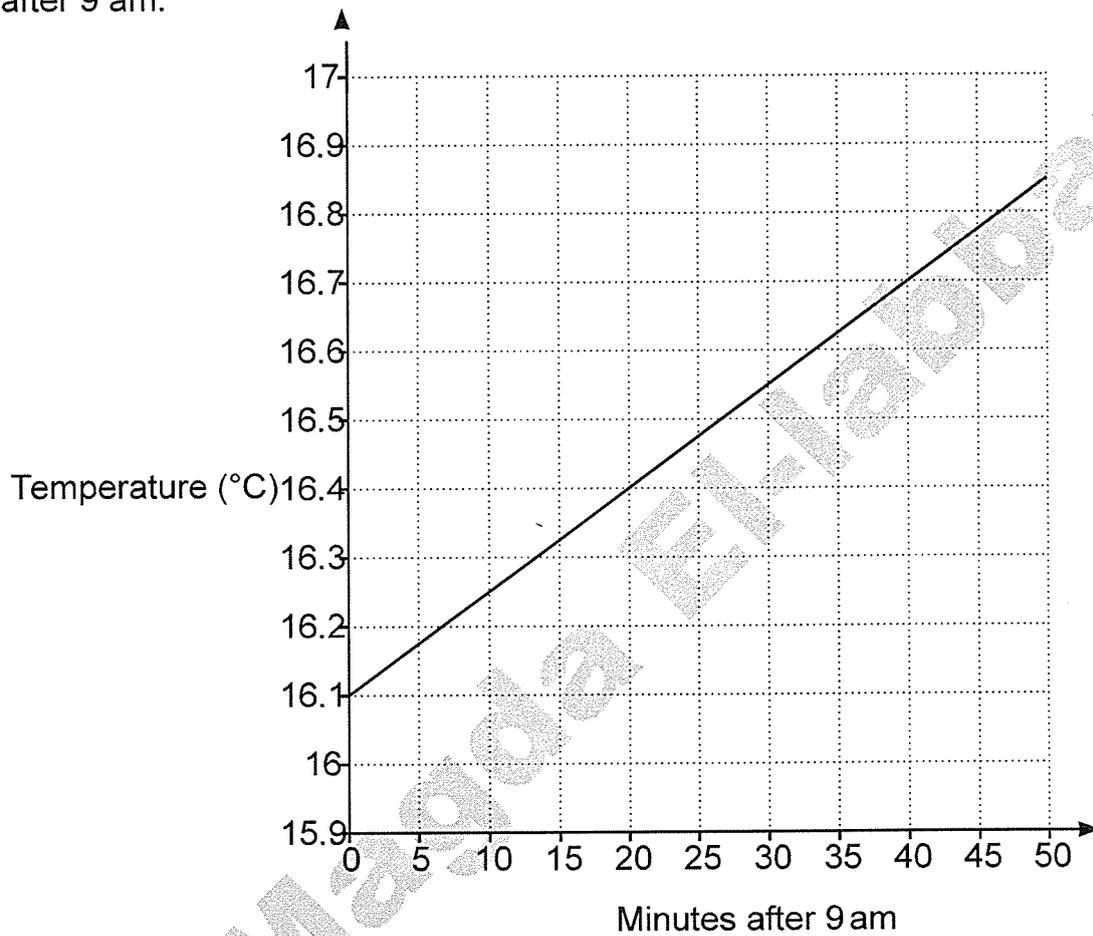## with Classified
answer book

8

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3-Interpreting graphs

1 Lily heats the water in her swimming pool.
The graph shows the temperature, in °C, of the water for the first 50 minutes after 9 am.
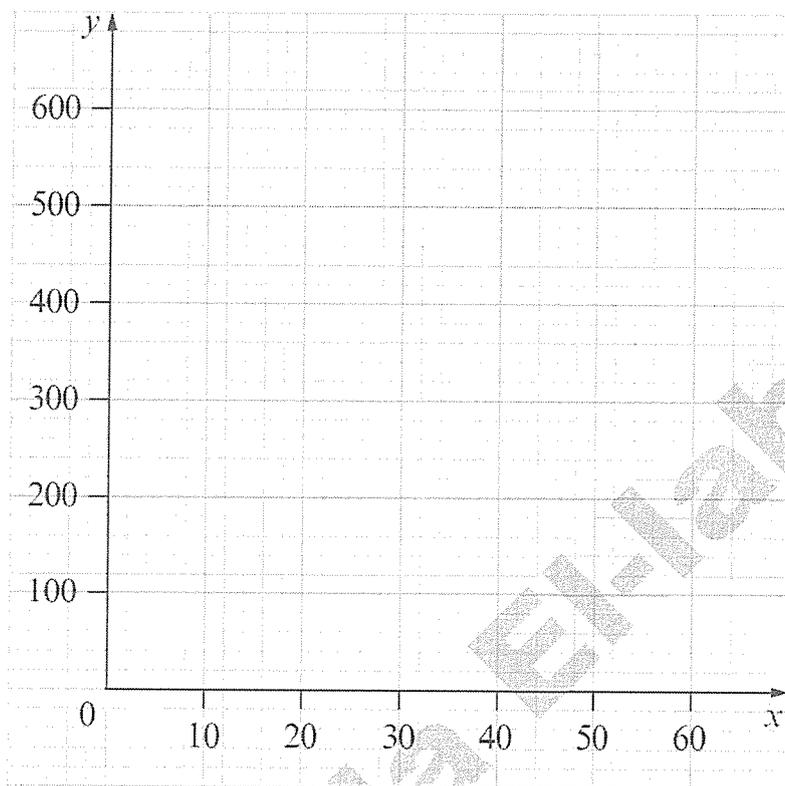

The temperature of the water continues to increase at this

constant rate. Find the temperature of the water at 11 am.

.... °C

2 You can exchange 50 dollars for 600 reals.

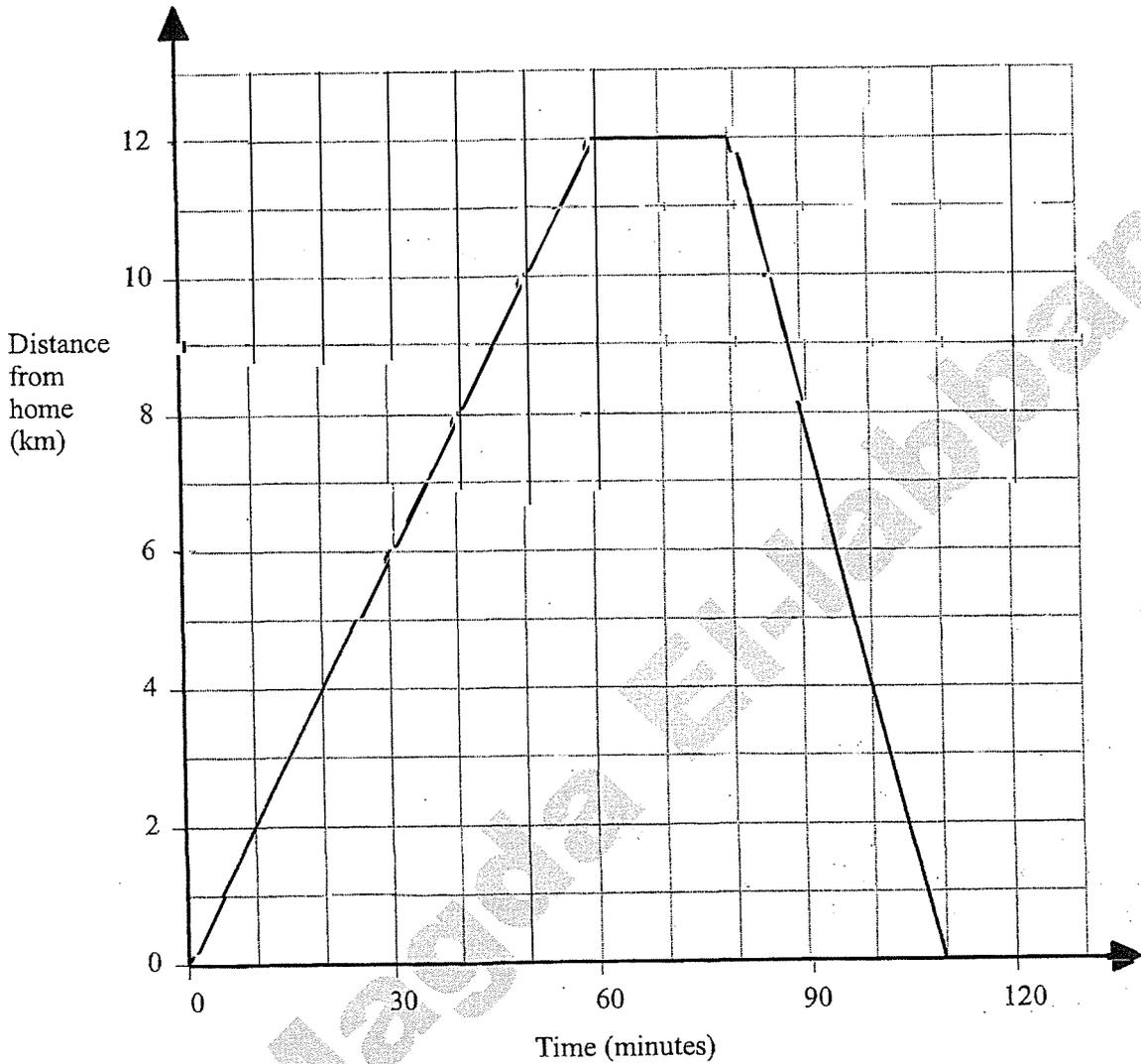**a** Draw a graph to show the exchange rate. Show dollars on the *x*-axis.

b You can exchange *x* dollars for *y* reals. Write down the equation of your graph.

_____

c Sofia exchanges some dollars. She receives 1560 reals.

How many dollars does she exchange?

3 Rebecca went on a bike ride.
This graph shows Rebecca's distance from home on her bike ride.

(a) How far had Rebecca travelled after 30 minutes?

..................km

(b) After 60 minutes, Rebecca stopped for a rest.
For how many minutes did she rest?
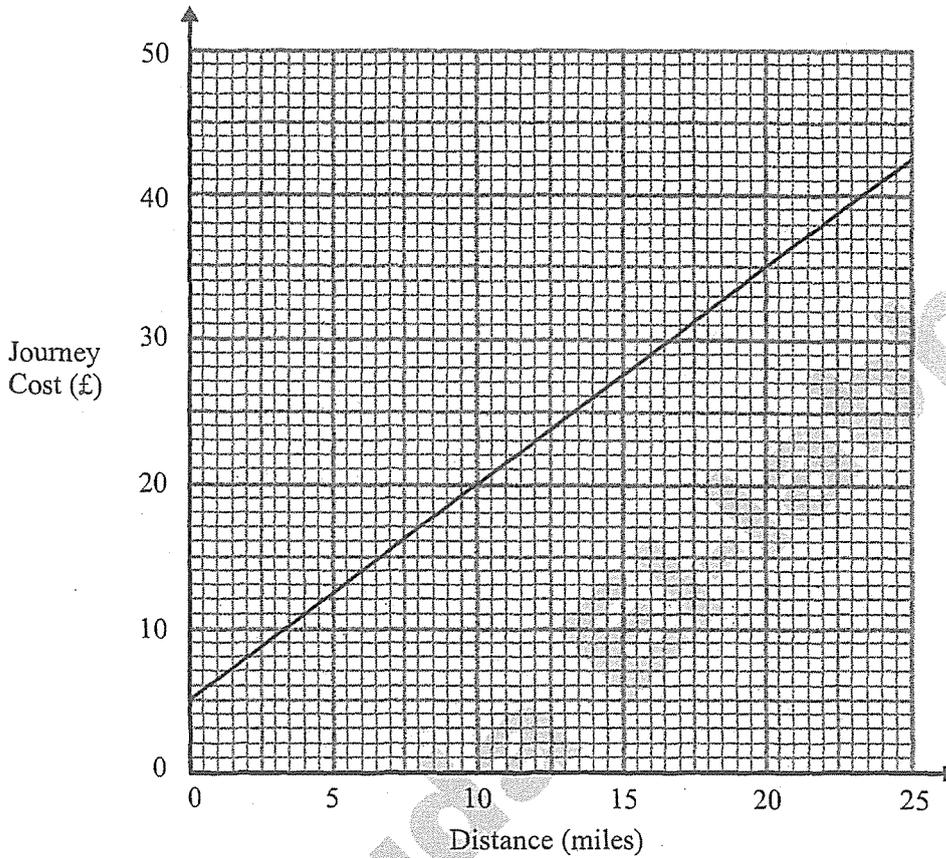
..............................minutes

(c) How far did Rebecca travel in total?

..............km

4   Bill is a taxi driver.

You can use this graph to find the cost of a taxi for different distances.

For each journey there is a fixed charge plus a charge for the distance.

(a) How much is the fixed charge?
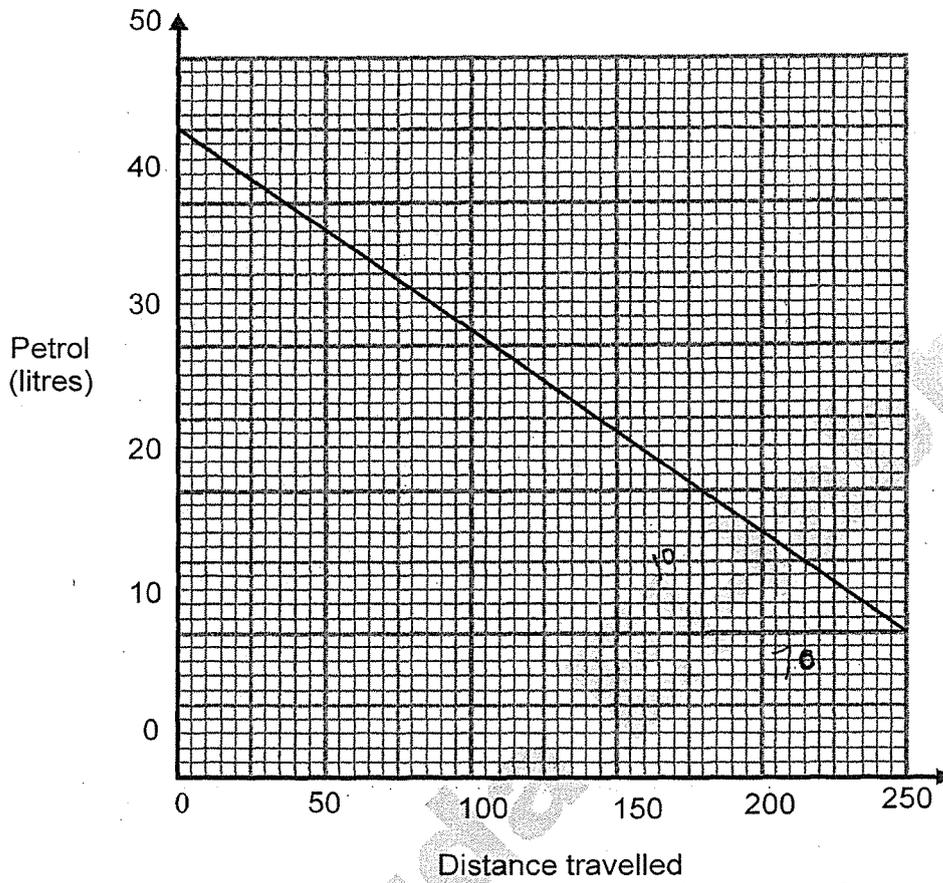
£ ....

Bill makes two journeys.
The distance of one journey is 10 miles further than the other journey.

(b) Work out the difference between the two journey costs.

£.............................

5   John draws a graph to show the amount of petrol his car used on a 250 mile journey.

Petrol
(litres)

Distance travelled
(miles)
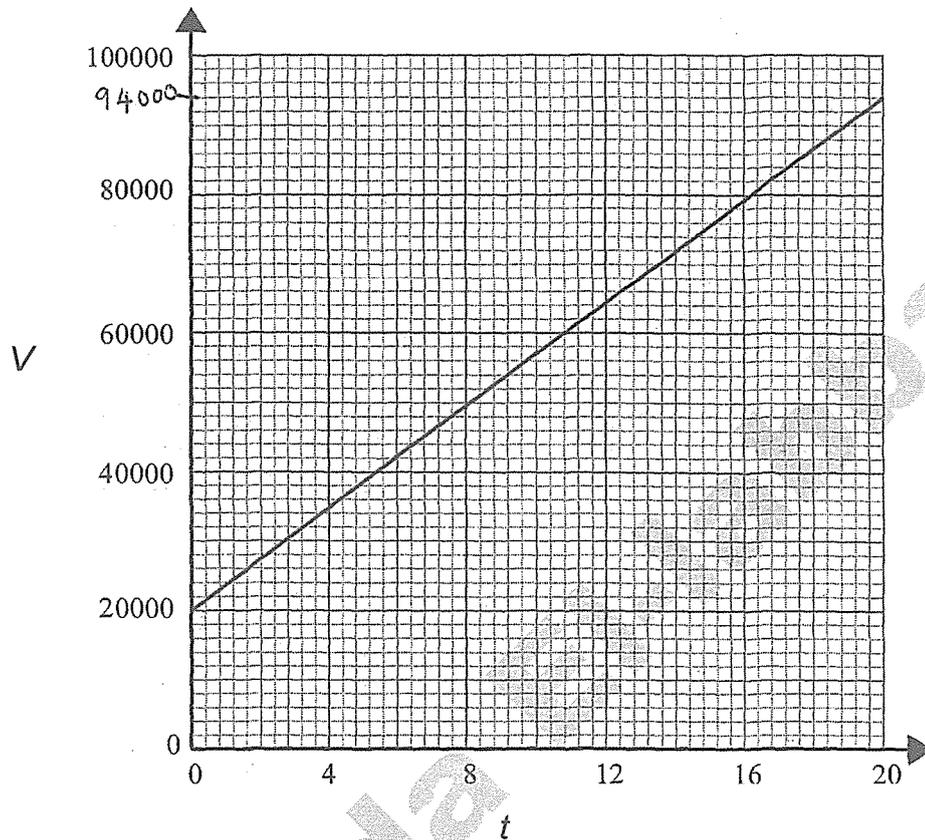
(a) How much petrol was in John's car at the start of his journey?

40

(b) How many more miles can John's car travel before it runs out of petrol?
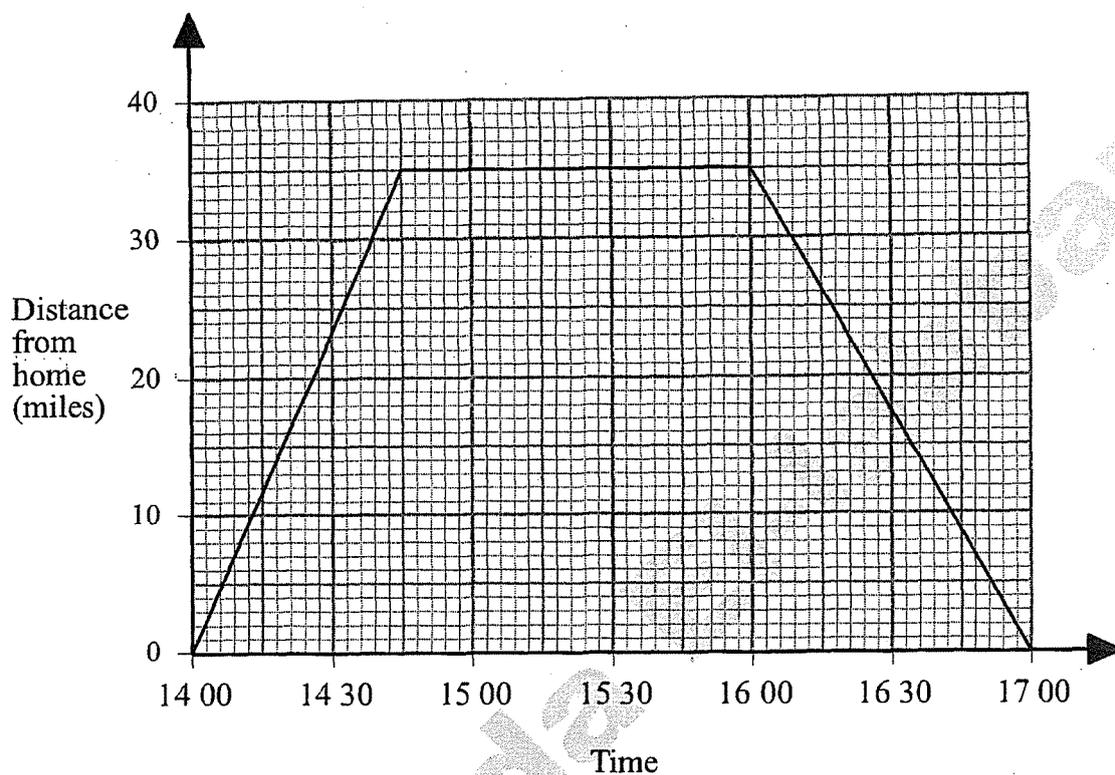
65

6   Bernie is filling up a swimming pool.
    The graph shows the volume v of water in the swimming pool at time t hours.

Work out the rate of that the water is flowing into the
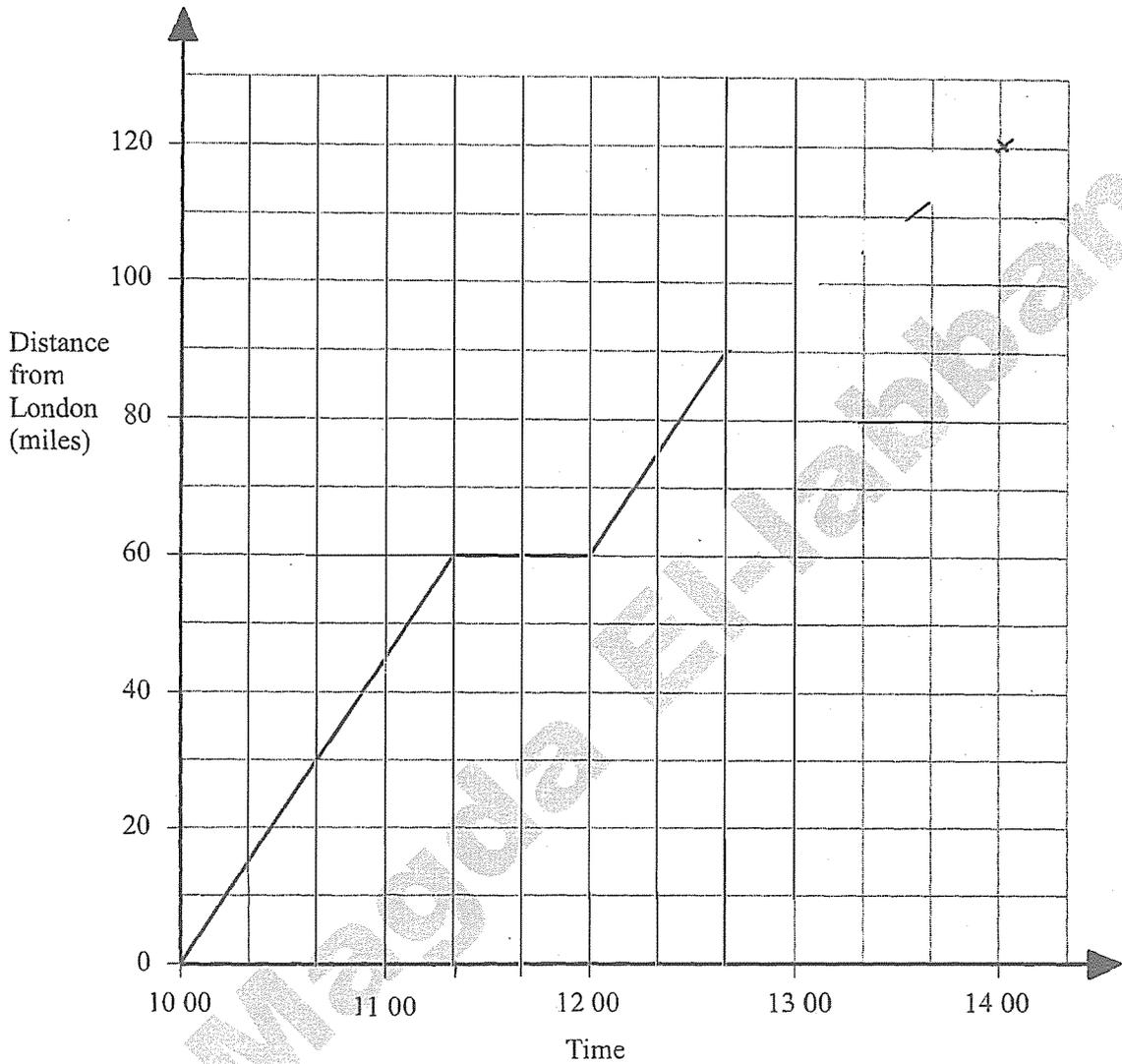
pool. Give your answer in litres per hour.

7 Emily drove to the beach. She stayed at the beach and then she drove back home. Here is Emily's travel graph.


(a) For how many minutes did Emily stay at the beach?

(b) What was Emily's average speed on her **journey to the beach**?

8   Dawn drove from London to Birmingham.
She made one stop at a service station. Here is part of Dawn's travel graph.

(a) For how many minutes did Dawn stop at the service station?

(b) What was Dawn's average speed between London and the service station?

(c) Birmingham is 120 miles from London.
Dawn arrived in Birmingham at 14 00.

Complete the graph.

9) The distance-time graph shows the journeys of two cars travelling from London to Birmingham on a motorway.
Both cars stop at a motorway service station on their journey.
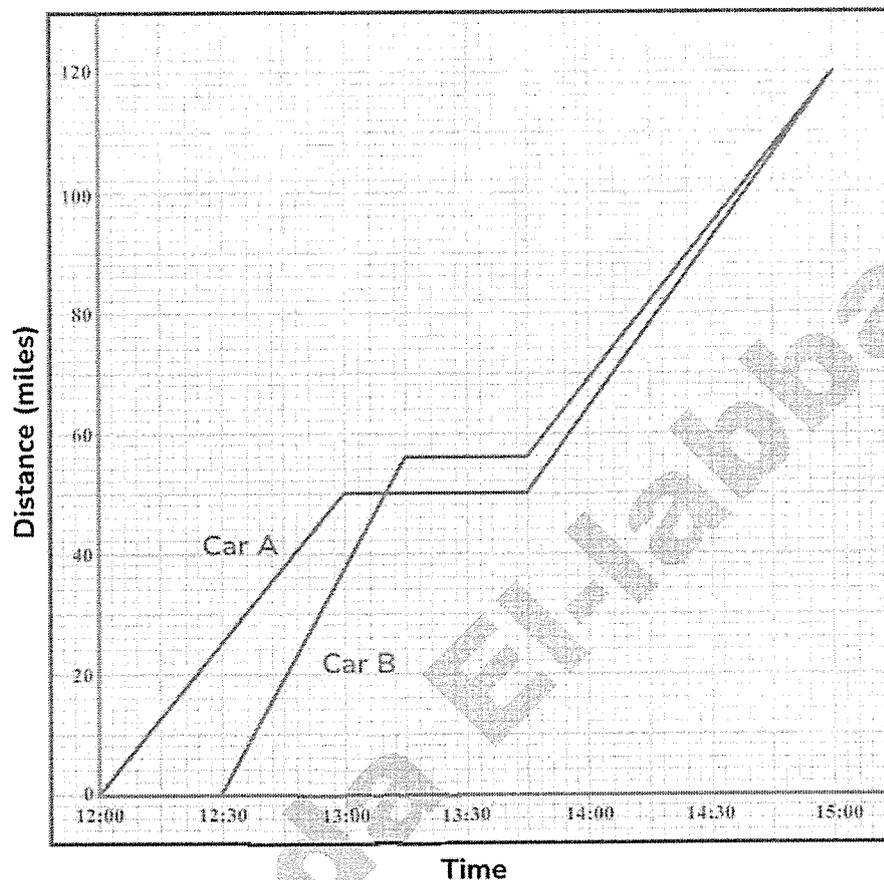
(a)   Calculate Car A's speed for the second part of its journey. 56

(b)   The speed limit on the motorway is 70 miles per hour. Does Car B exceed the speed limit in the first part of their journey? yes
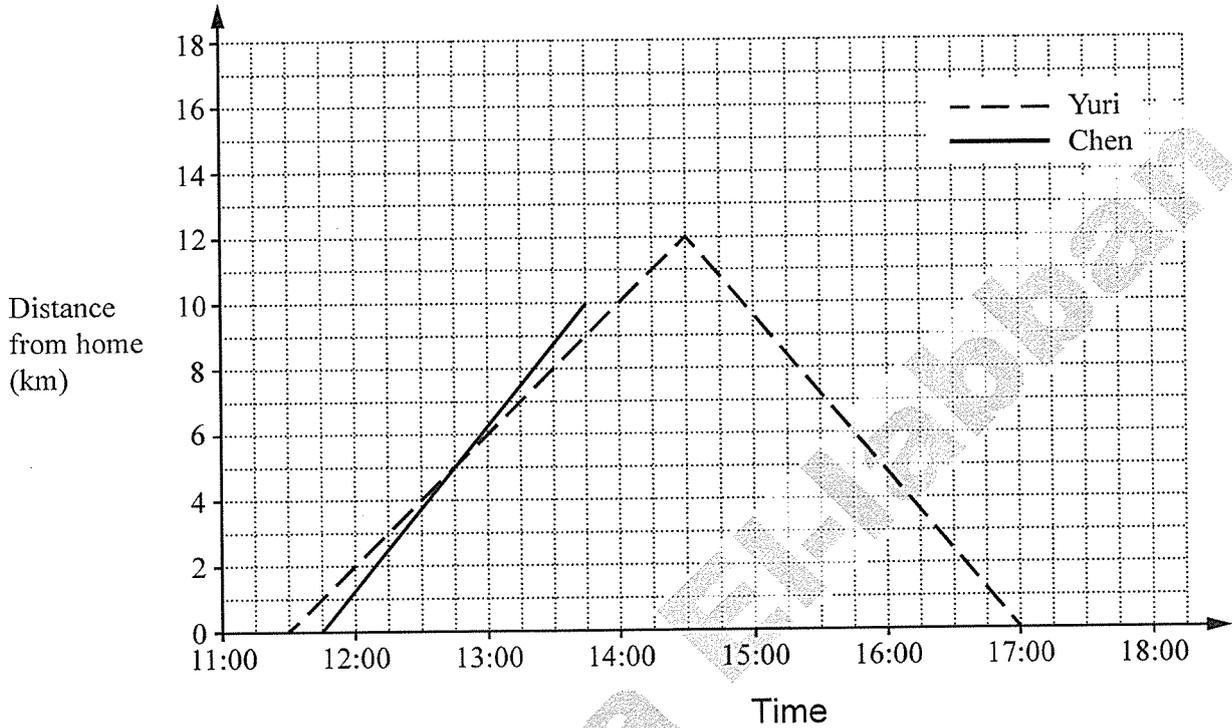
10) The diagram shows a distance-time graph drawn by a school student.
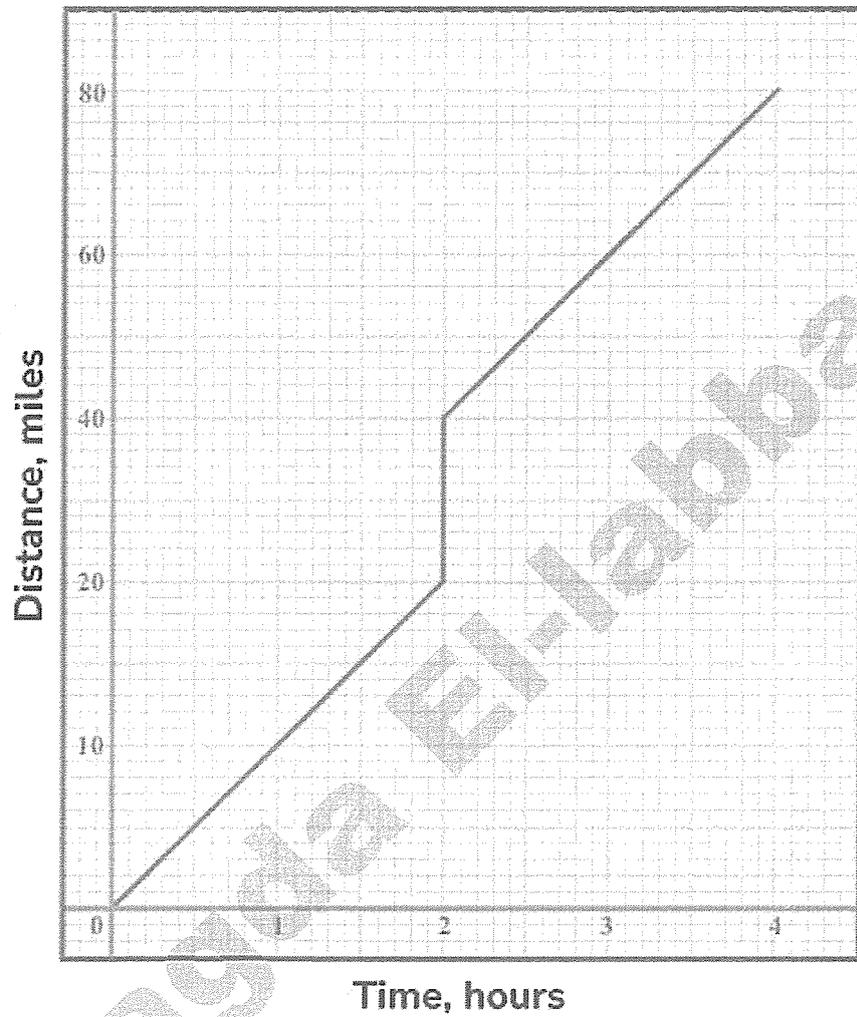
Describe two mistakes made by the student.

11 Yuri and Chen live in the same house.

They both go for a walk along the same path and return back home again. The travel graph shows some information about Yuri's and Chen's walks.

(a) Write down the time when Chen passes Yuri.

(b) Chen does not walk as far as Yuri.

He stops for 30 minutes when he is 10 km from home.
He then walks back home at a constant speed, arriving home 45 minutes before Yuri.

Complete the travel graph for Chen.