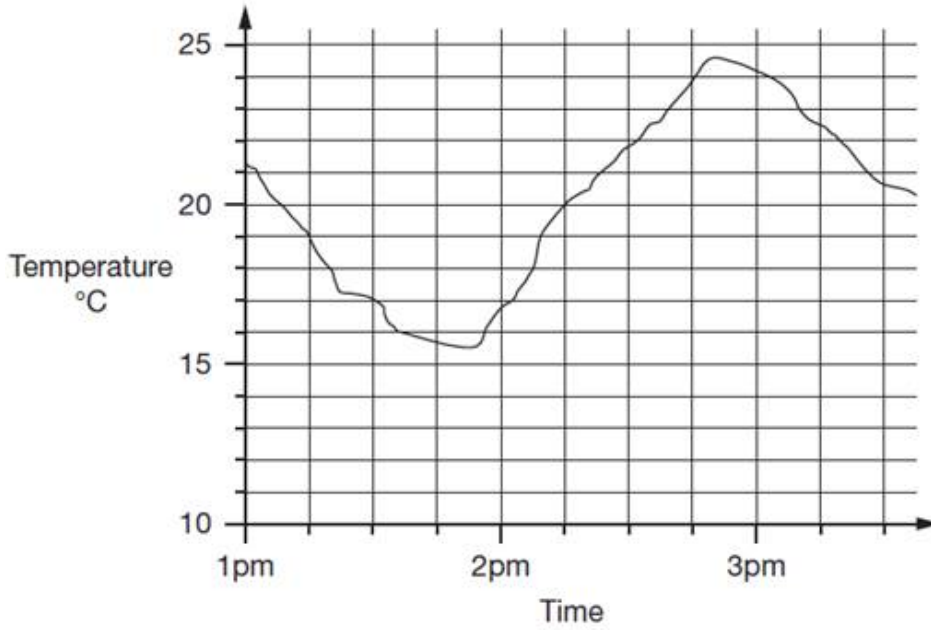


Q1. This graph shows how the temperature changed in Liam's room one afternoon.




Estimate the temperature at 3:15pm.

 °C

1 mark

Estimate the time when the temperature was highest.

 pm

1 mark

How much did the temperature change from 2pm to 2:30pm? Give your answer to the **nearest degree**.

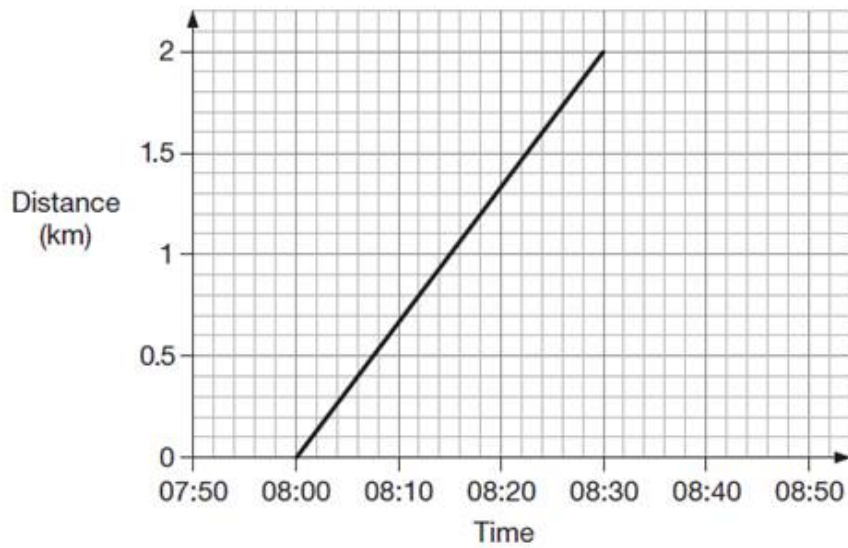
 degrees

1 mark

Q2. Alfie and his brother walked from home to their school.

Their school is 2 kilometres from home.

The graph shows information about **Alfie's** journey.



(a) How does the graph show that Alfie walked at a **constant speed** for all of his journey?



.....

1 mark

(b) Alfie's brother left home **10 minutes before** Alfie.

He arrived at school **20 minutes after** Alfie.

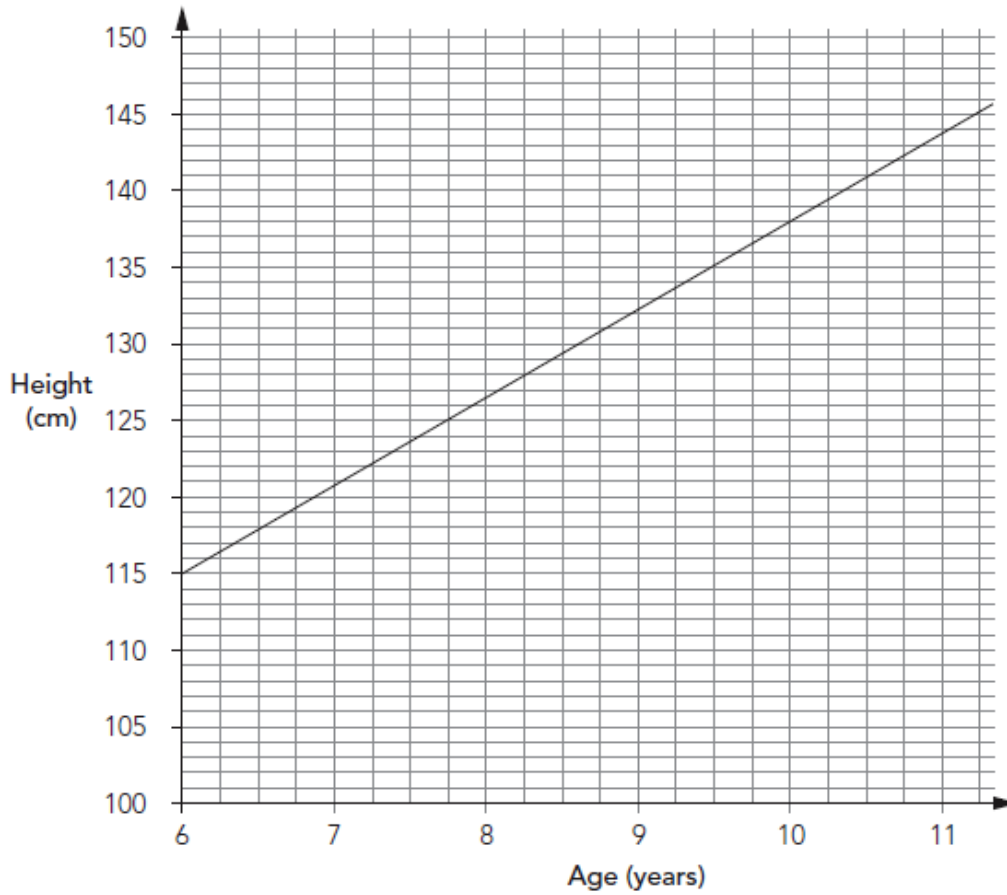
He walked at a **constant speed** for all of his journey.

At what time did Alfie overtake his brother?



1 mark

Q3. The graph shows the average heights of girls in the UK from age 6 – 11 years.



Emily is **1.38 m** tall.

She is the **average** height for her age.

How old is she?



years old

1 mark

Zoe is **$9\frac{1}{2}$ years old**.

She is also 1.38 m tall.

How much taller than average is she?

Give your answer in centimetres.

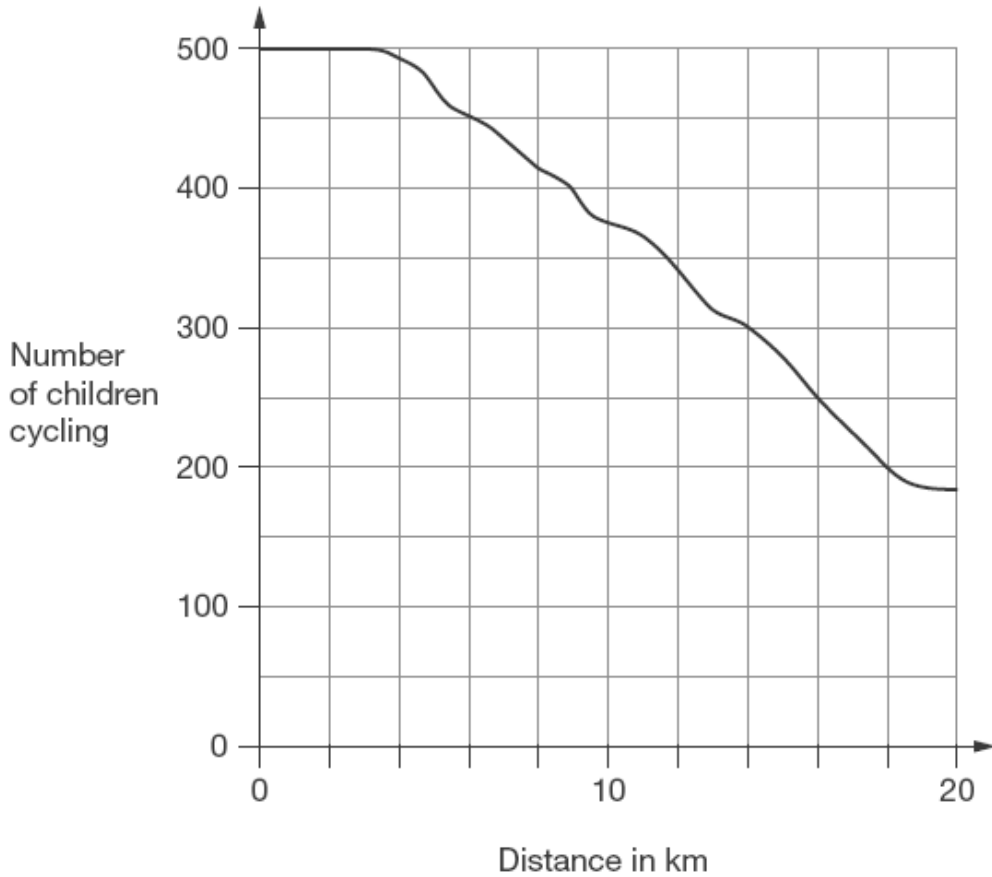


cm

1 mark

Q4. 500 children started a 20 kilometre sponsored cycle ride.

This graph shows how far they cycled.



At what distance were exactly half of the children still cycling?

Handwritten mark

 km

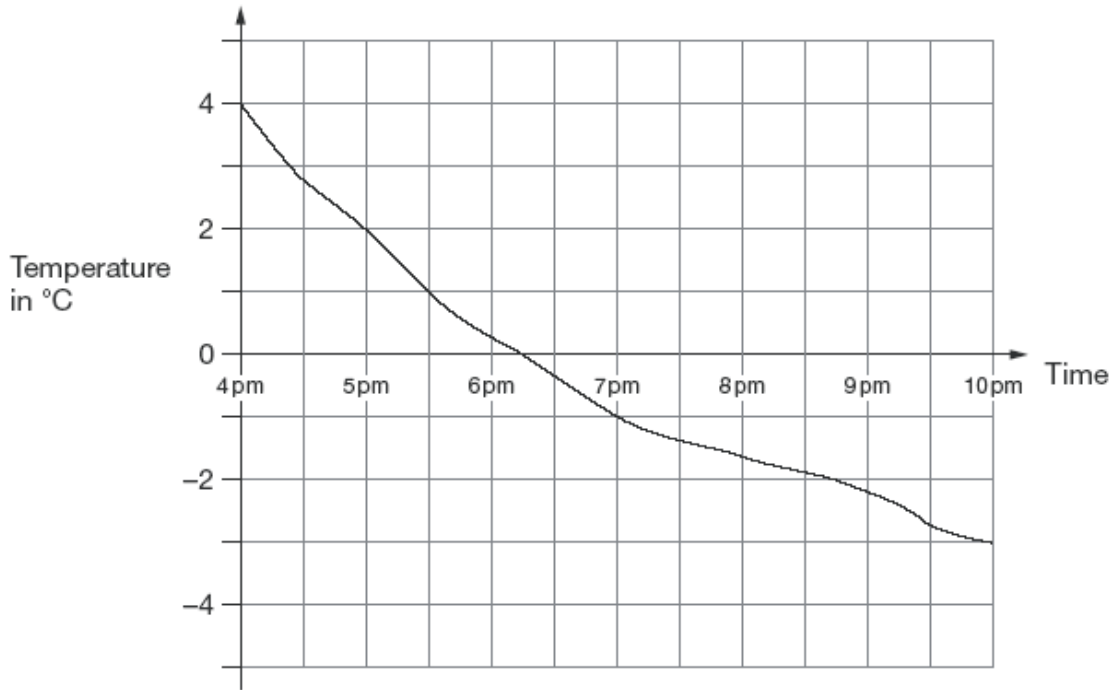
1 mark

Estimate how many children completed the 20 kilometre cycle ride.

Handwritten mark

1 mark

Q5. This graph shows the outside temperature from 4pm to 10pm on a day in winter.



At what time was the temperature -2°C ?

Handwritten mark

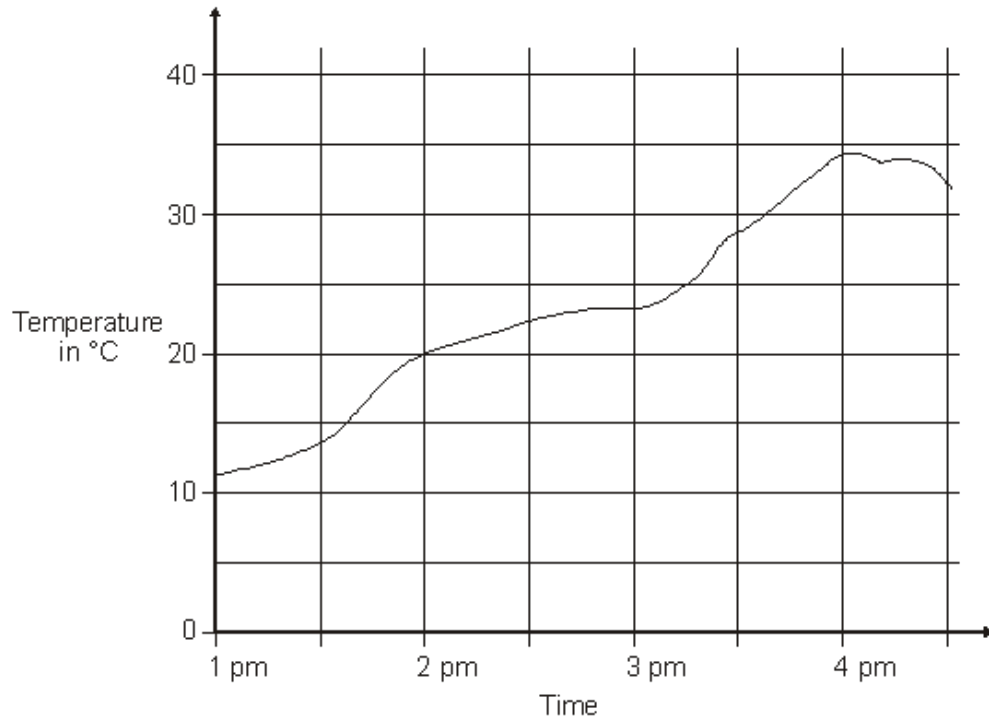
1 mark

How many degrees did the temperature drop from 5pm to 7pm?

Handwritten mark

1 mark

Q6. This graph shows the temperature in a greenhouse.



Use the graph to find the time when the temperature was 25°C.

Handwritten mark

1 mark

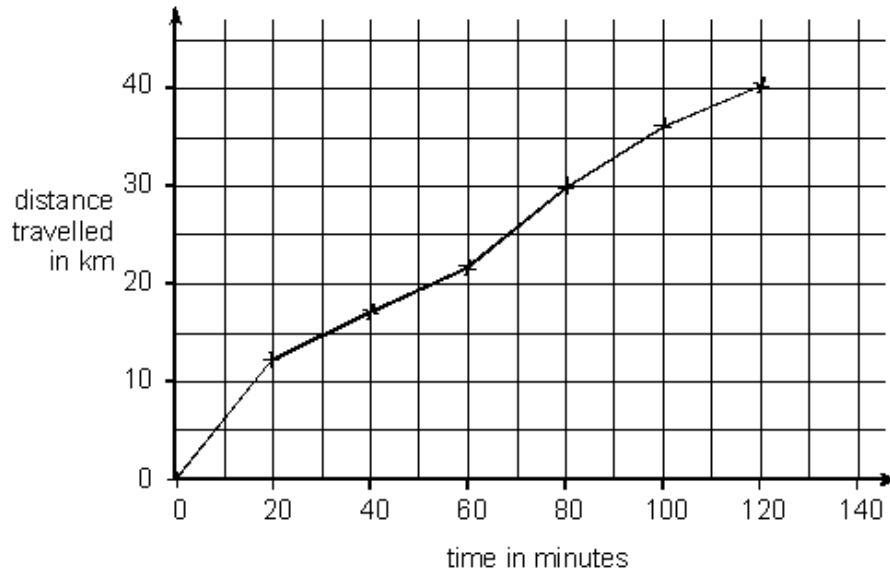
Use the graph to find the difference between the temperature at 2 pm and the temperature at 4 pm.

Handwritten mark

1 mark

Q7. Carol went on a **40-kilometre** cycle ride.

This is a graph of how far she had gone at different times.



How many minutes did Carol take to travel the **last 10 kilometres** of the ride?

100 → **minutes**

1 mark

Use the graph to estimate the distance travelled in the **first 20 minutes** of the ride.

12 → **km**

1 mark

Carol says,

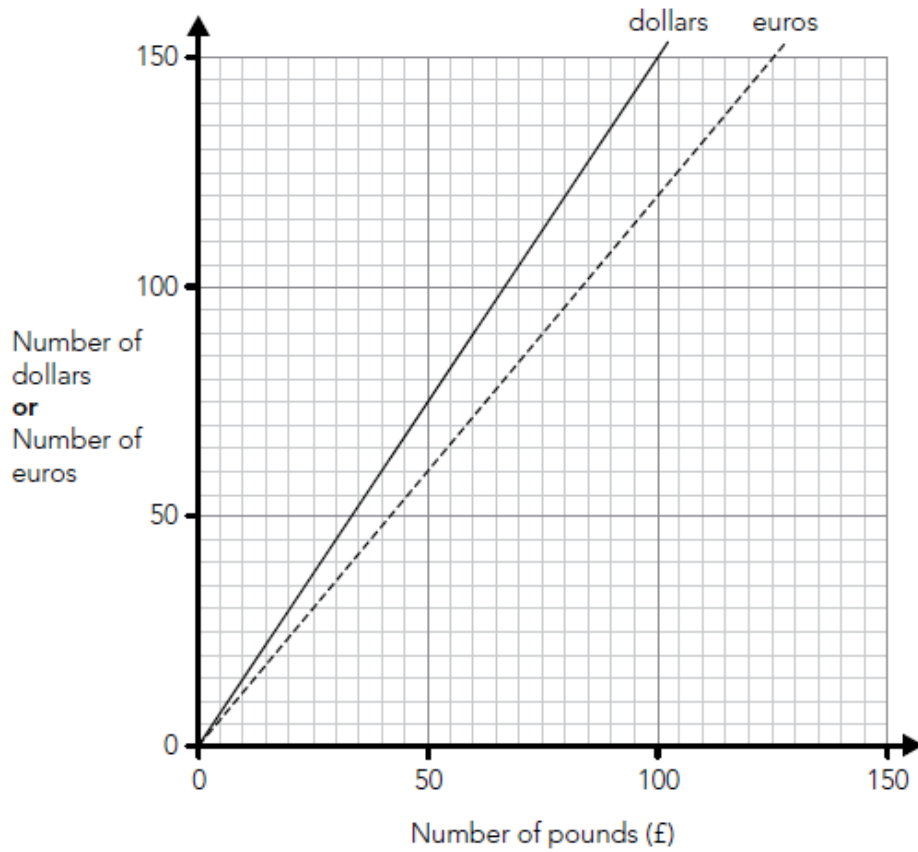
'I travelled further in the first hour than in the second hour.'

Explain how the graph shows this.

100 →
.....
.....

1 mark

Q8. Nik uses this graph to change between pounds (£), dollars and euros.



Use the graph to work out the missing numbers below.

The first one is done for you.

£70 is about the same as **84 euros**



£70 is about the same as _____ **dollars**

120 dollars is about the same as **£ _____**

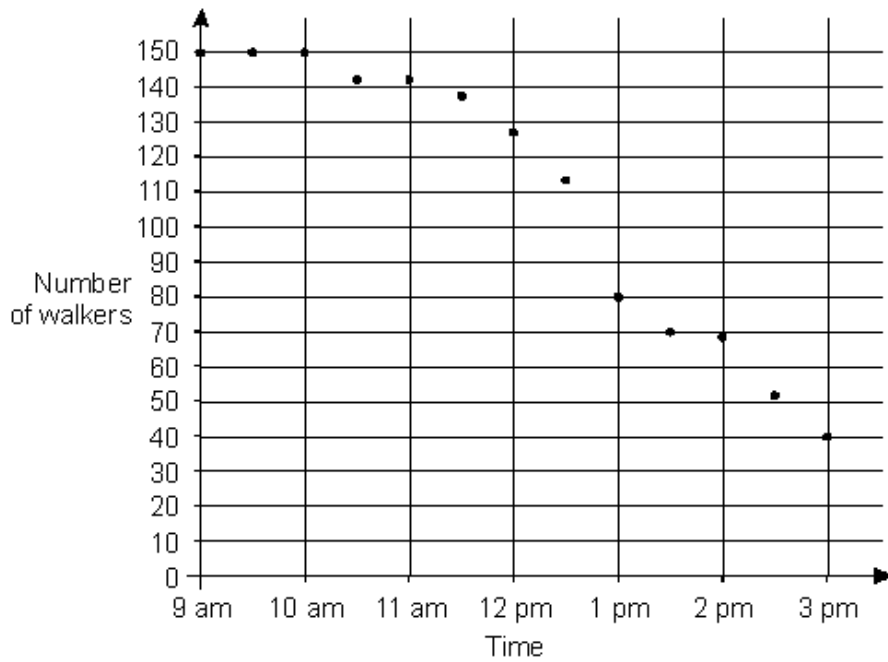
120 euros is about the same as _____ **dollars**

1 mark

1 mark

Q9. 150 people take part in a walk.

This chart shows the number of people still walking at different times.



Use the chart to estimate the **time** when **two-thirds of the people** are still on the walk.



1 mark

What **percentage** of the people who started are **still on the walk at 3pm**?



Show your **working**. You may get a mark 

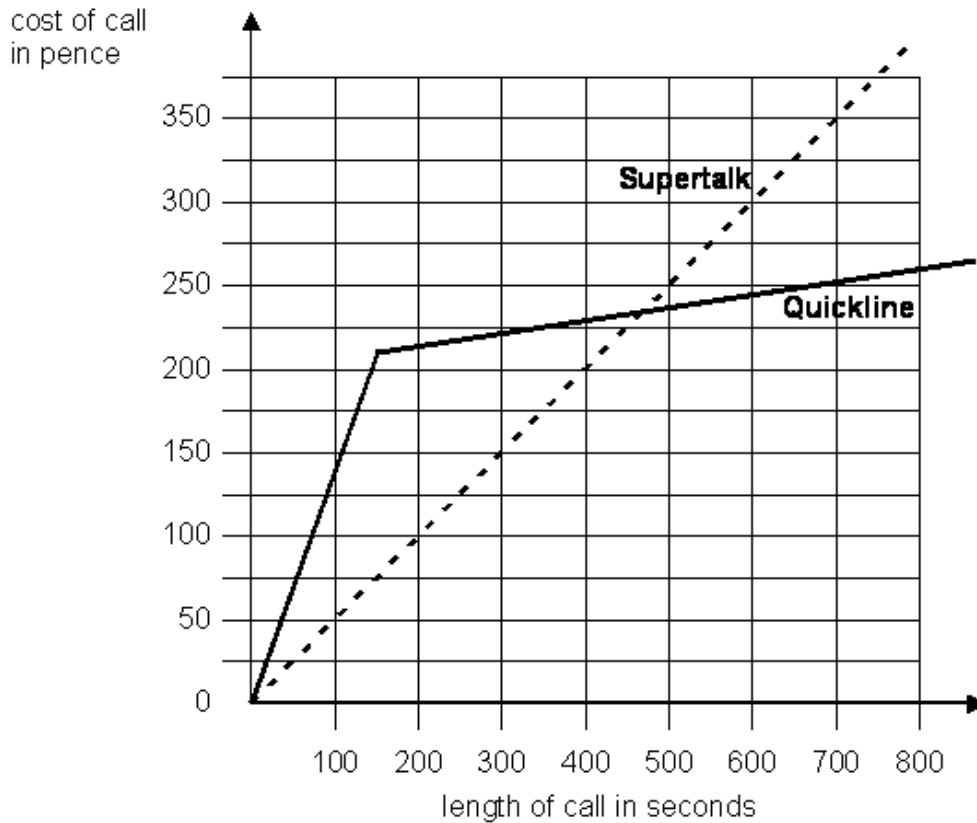
%

2 marks

##

Two telephone companies, **Supertalk** and **Quickline**, have different charges for long distance calls.

This graph shows the charges for different lengths of calls.



Estimate from the graph how many seconds longer a **£2** call lasts with **Supertalk** compared to **Quickline**.

150 seconds

1 mark

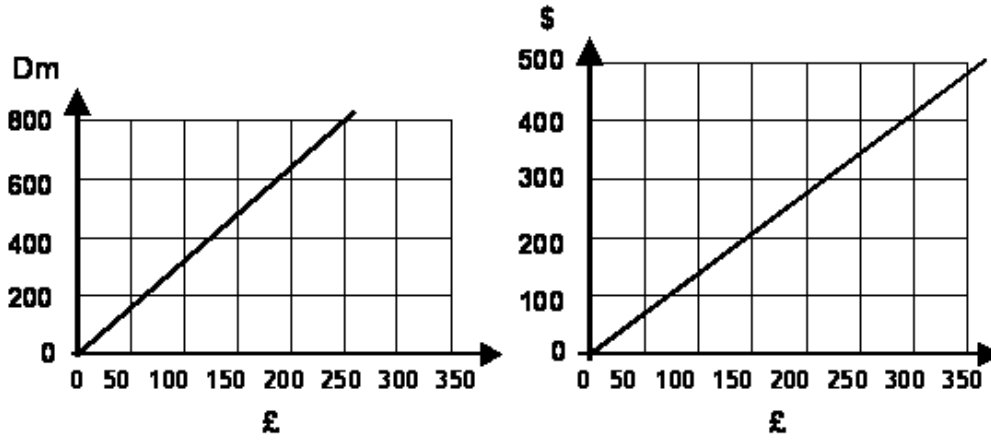
Estimate from the graph the length of a call when **Quickline** becomes cheaper to use than **Supertalk**.

Give your answer to the nearest 10 seconds.

450 seconds

1 mark

Q11. These two graphs convert pounds (£) to Deutschmarks (Dm) and pounds (£) to dollars (\$).

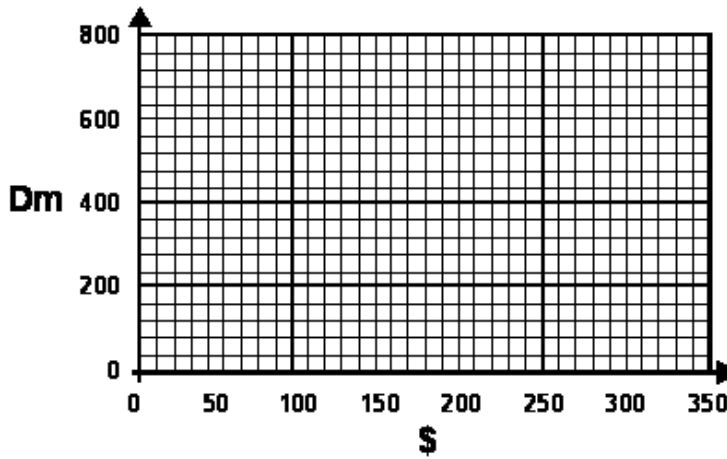


Use the graphs to complete the table.

number of £	approximate number of Dm	approximate number of \$
0	0	0
200		

2 marks

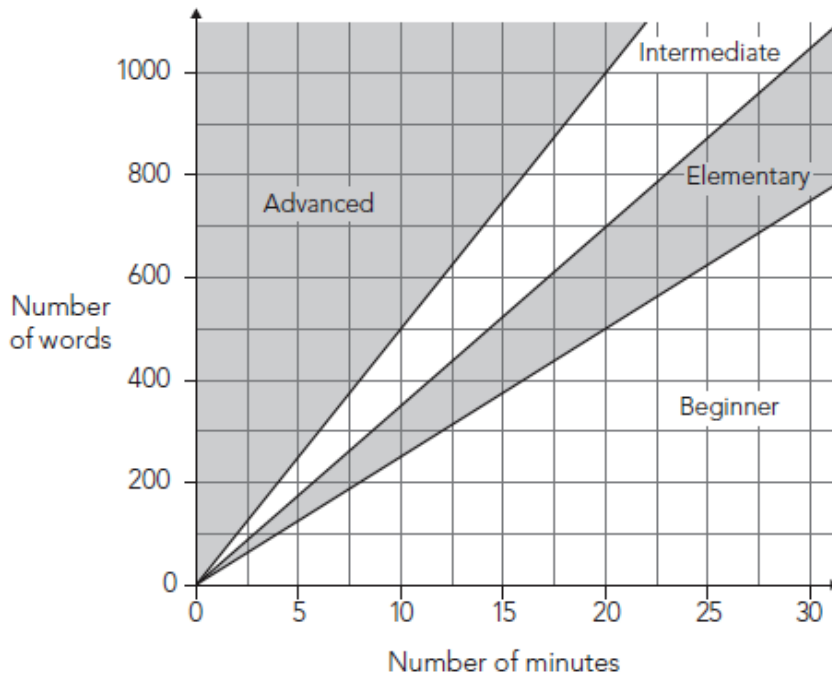
Use the information in your table to draw a conversion graph for \$ into Dm.



1 mark

Q12. How fast you can type accurately is called your typing speed.

The regions of the graph show information about different typing speeds.




Darren's level of typing is **elementary**.

In **20 minutes** he should be able to type between 500 and 700 words.

Jo's level of typing is **intermediate**.


How many words should she be able to type in **20 minutes**?

 Between and

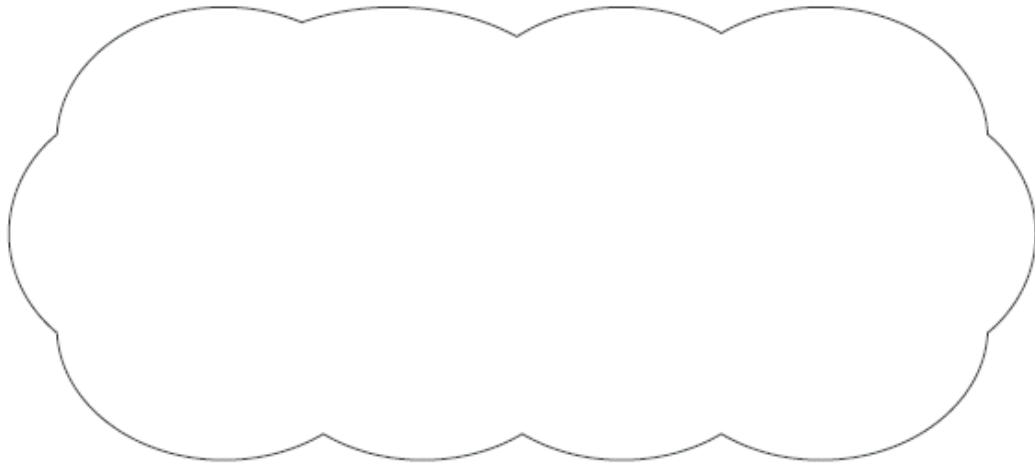
1 mark

Kath's typing speed is **30 words per minute**.

What level is Kath's typing?

 Advanced Intermediate Elementary Beginner

Explain how you know.



1 mark

- M1.** (a) Accept answers in the range 22.2 to 22.8 exclusive.
Do not accept 22.2 or 22.8 1
- (b) Accept answers in the range 2:48 pm to 2:52 pm inclusive.
The answer is a specific time. 1
- (c) 5 1
- [3]**

M2. Gives a correct interpretation of the graph, eg:

- It is a straight line
- It goes up steadily
- The angle of the line stays the same
- The gradient of the line is constant

Accept minimally acceptable explanation, eg:

- *It is straight*
- *It doesn't bend*
- *It is a diagonal*

Do not accept incomplete or ambiguous explanations that do not sufficiently imply a constant speed and / or do not demonstrate the relationship holds for the entire graph, eg:

- *The line goes straight up*
- *It is not wobbly*
- *It is level*
- *Every 5 mins he walks the same distance*
- *He walks 1km in the first 15 mins and 1km in the second 15 mins*

! *Values read from graph*

Accept, provided it is clear the relationship holds for the entire graph.

Values should be accurate within +/- 0.1km and / or +/- 2 minutes, eg:

- *0.7km every 10 minutes*
- *Every 7.5 minutes he walks about half a km*

! *Calculation of kilometres per hour*

Accept values in the range 3.7 to 4.3km per hour inclusive.

1

	(b) 08:10	! Accept values between 08:09 and 08:11 inclusive ! Time	1	[2]
M3.	(a) 10 years old		1	
	(b) 3 cm	Accept answers in the range of 2.9 – 3.1 inclusive ! Change of unit, eg 0.03 m Condone, provided cm is replaced by m	1	[2]
M4.	(a) 16		1	
	(b) A whole number in the range 180 to 190 inclusive		1	[2]
M5.	(a) Answer in the range of 8:40pm to 8:50pm inclusive	The answer is a specific time	1	
	(b) 3	Do not accept –3	1	
M6.	(a) Answer in the range 3:10pm to 3:20pm inclusive.		1	
	(b) Answer in the range 13 degrees to 14 degrees inclusive.	The answer is a specific time (see page 5 for guidance).	1	[2]

- M7.** (a) 40 1
- (b) Answer in the range 12 to 13km inclusive. 1
- (c) An explanation which indicates that after 1 hour she has travelled more than 20km and/or she has travelled less than 20km in the second hour, eg
- 'She did about 40 km and it was about 22 in the first hour';
 - 'Half and half would be 20-20, but she does more than 20 then less than 20';
 - 'It goes to 23 in the first hour'.
 - Do not accept vague or arbitrary explanations, eg**
 - 'She got tired in the second half';
 - 'It's marked on the graph';
 - 'There's more crosses in the first hour than the second';
 - 'The gaps are further apart'.
- 1
- [3]**

- M8.** 105 ± 1
- then
- 80 ± 1 1
- 150 ± 1 1
- U1
- [2]**

- M9.** (a) Answer in the range 12:30pm to 1:00pm exclusive.
Accept answers with or without 'pm'. 1

- (b) Award **TWO** marks for the correct answer of $26\frac{2}{3}\%$ **OR** 26.6%
 Accept 26.6% **OR** 26.7% **OR** $26.6\frac{1}{3}\%$ **OR** 27%
 Accept for **ONE** mark 26%

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

$$40 \div 150 \times 100$$

Answer need not be obtained for the award of the mark.

Up to 2

[3]

- M10.** (a) Answer in the range 250 to 270 inclusive.

1

- (b) Answer in the range 460 to 480 inclusive.

1

[2]

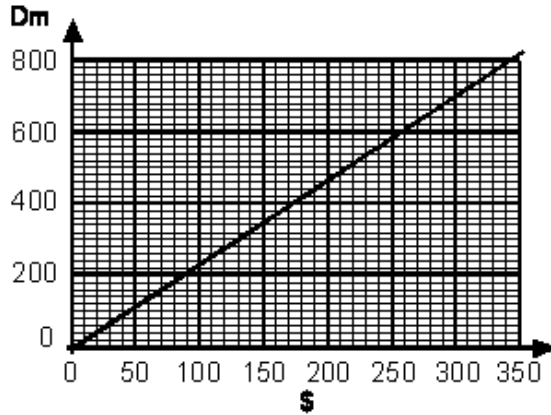
- M11.** (a) Number of DM in the range 630 to 670, **inclusive**.

1

- (b) Number of \$ in the range 270 to 280, **inclusive**.

1

- (c) Correct drawing of line **through origin** and point plotted according to answers given in (a) and (b), eg:



To be awarded the mark, the point must be correctly plotted (within range described below) **AND** the line must pass through both the origin and the point. The point must be plotted within $\pm 20\text{DM}$ and $\pm \$10$ of the answers given in (a) and (b)

1

[3]

- M12.** (a) Gives both correct values, ie

700 (or 701) and 1000 (or 999)

(in either order)

1

- (b) Indicates Elementary and gives a correct explanation that places the speed clearly within the correct section on the graph, eg:

- 30 words in one minute is 300 words in ten minutes
- 30 wpm = 900 words in 30 minutes
- Darren is between 25 and 35 words per minute so she is the same as Darren

Accept minimally acceptable explanation, eg:

- 300 every 10
- Point equivalent to 30 words per minute (eg 300 words in 10 minutes) clearly indicated on the graph
- 25-35, same as Darren
- $20 \times 30 = 600$

*! Small number of minutes used, where regions are closer together
Accept points equivalent to 30 words per minute where the number of minutes is 2.5 or greater*

eg, accept

- 30 words in one minute is 75 words in $2\frac{1}{2}$ minutes

eg, do not accept

- I looked at 1 minute on the graph and found where 30 words is on the graph

Do not accept incomplete explanation, eg:

- *I read up from 10 minutes*
- *Between 25 and 30 words per minute*
- *Same as Darren*

1
U1

[2]

