Mock Grade 4

Maths Booklet 5

Paper 2H
Calculator

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1   Make t the subject of the formula $4w = 7t + 51$

(Total for Question 1 is 2 marks)

2   Three companies sell the same type of furniture.

The price of the furniture from Pooles of London is £1286
The price of the furniture from Jardins of Paris is €1514
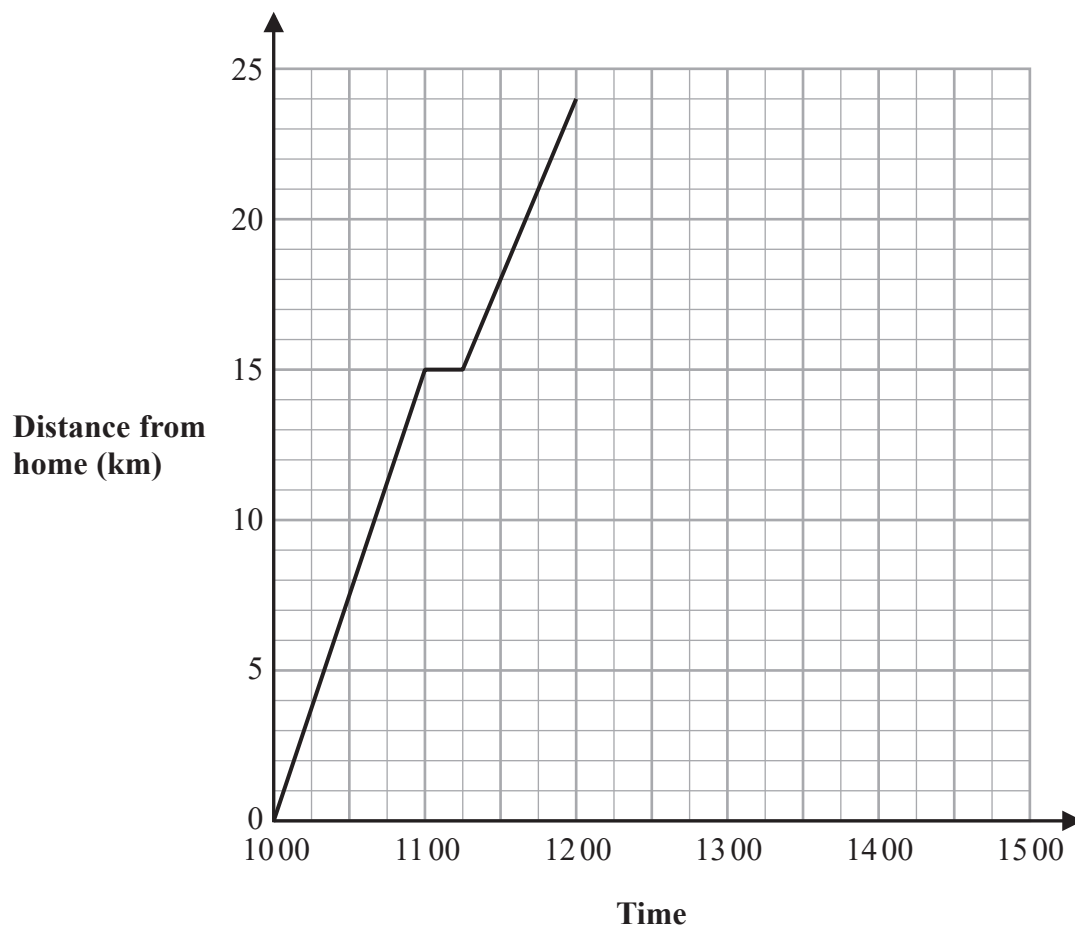The price of the furniture from Outways of New York is $1780

The exchange rates are

  £1 = €1.18

  £1 = $1.37

Which company sells this furniture at the lowest
price? You must show how you get your answer.

(Total for Question 2 is 3 marks)

3 Jalina left her home at 10 00 to cycle to a park.
On her way to the park, she stopped at a friend's house and then continued her journey to the park.
Here is the distance-time graph for her journey to the park.

(a) On her journey to the park, did Jalina cycle at a faster speed before or after she stopped at her friend's house?
Give a reason for your answer.

....

....

....

Jalina stayed at the park for 45 minutes.
She then cycled, without stopping, at a constant speed of 16 km/h from the park back to her home.

(b) Show all this information on the distance-time graph.

(2)

(c) Work out Jalina's average cycling speed, in kilometres per hour, for the complete journey to the park and back.
Do **not** include the times when she was not cycling in your calculation.
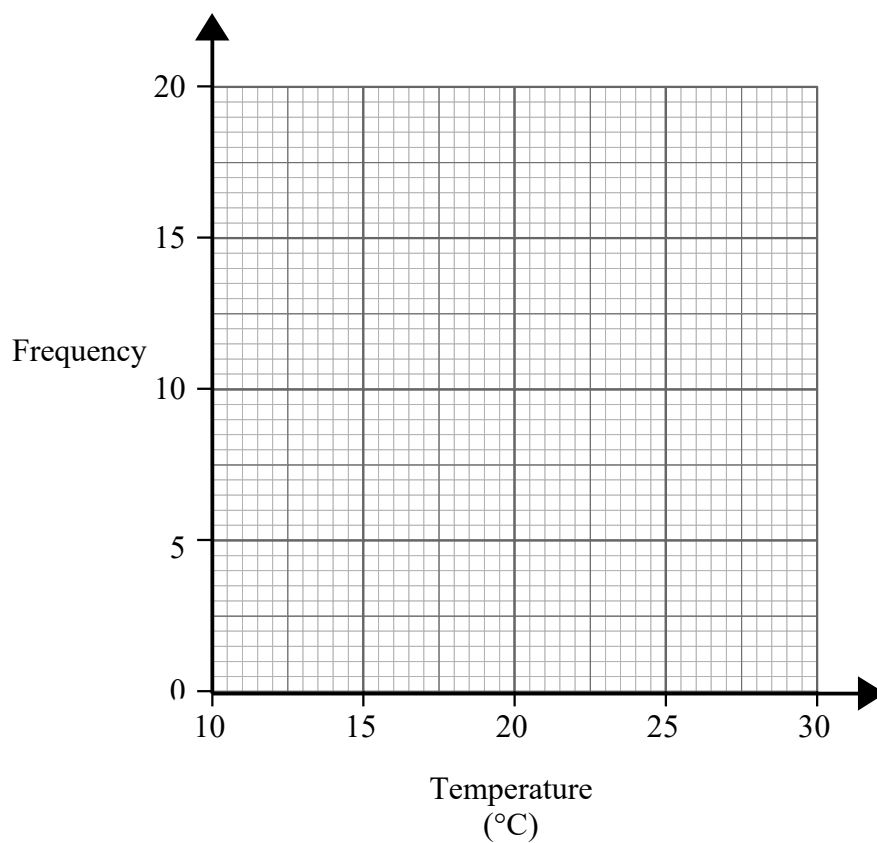Give your answer correct to 1 decimal place.

.... km/h

(3)

(Total for Question 3 is 6 marks)

5   The frequency table shows the temperature, in degrees, of 40 days.

Temperature (°C)	Frequency
$10 < t \leqslant 14$	6
$14 < t \leqslant 18$	8
$18 < t \leqslant 22$	10
$22 < t \leqslant 26$	12
$26 < t \leqslant 30$	4

Draw a frequency polygon to show this information.
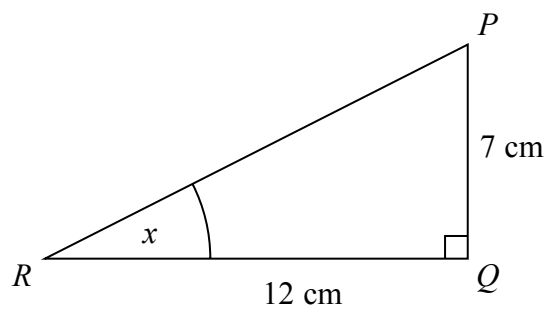

Frequency

Temperature
(°C)

(Total for Question 5 is 2 marks)

5 Frank, Mary and Seth shared some sweets in the ratio 8 : 4 : 15
Seth got 44 more sweets than Mary.

Work out the total number of sweets they shared.

....

(Total for Question 5 is 3 marks)

6 *PQR* is a right-angled triangle.

Work out the size of the angle marked *x*.
Give your answer correct to 1 decimal place.

.... °

(Total for Question 6 is 2 marks)

7 Here are the first four terms of an arithmetic sequence.

   11   8   5   2

   (a) Write an expression, in terms of n, for the nth term of this sequence.

....

(2)

The nth term of a different arithmetic sequence is $4n + 7$

   (b) Is 107 a term of this sequence?
       Show how you get your answer.

(2)

(Total for Question 7 is 4 marks)

8 Axel and Lethna are driving along a motorway.

They see a road sign.
The road sign shows the distance to Junction 8
It also shows the average time drivers take to get to Junction 8

To Junction 8
50 miles
44 minutes

The speed limit on the motorway is 70 mph.

Lethna says

"We will have to drive faster than the speed limit to drive 50 miles in 44 minutes."

Is Lethna right?

You must show how you get your answer.

(Total for Question 8 is 3 marks)