

GCSE Grade 6

Maths

Booklet 2

Paper 2H
Calculator

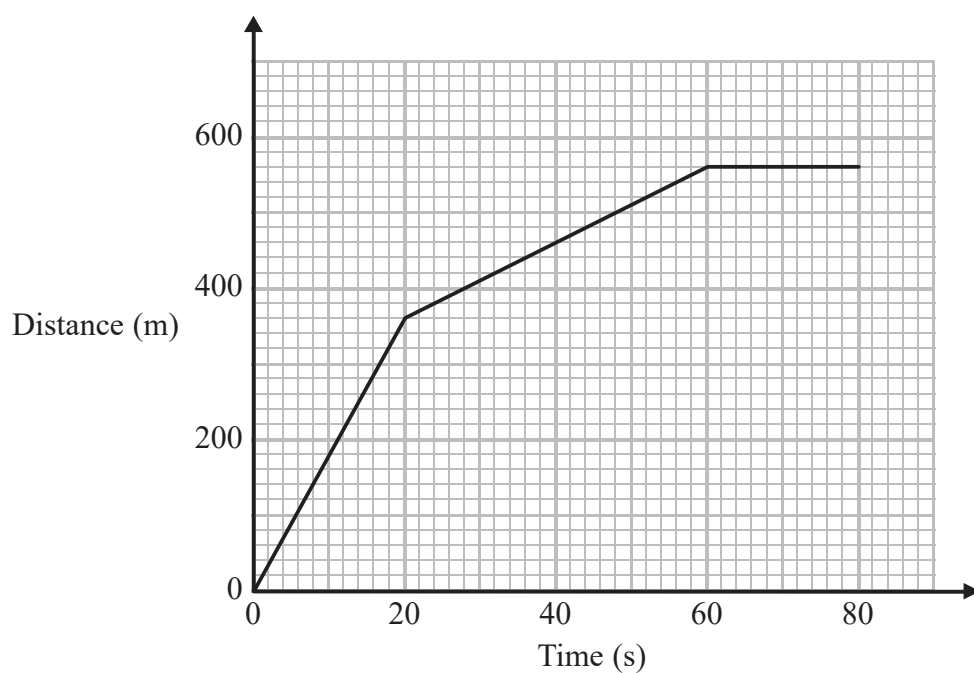
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1 Here is part of a distance-time graph for a car's journey.



- (a) Between which two times does the car travel at its greatest speed?
Give a reason for your answer.

(2)

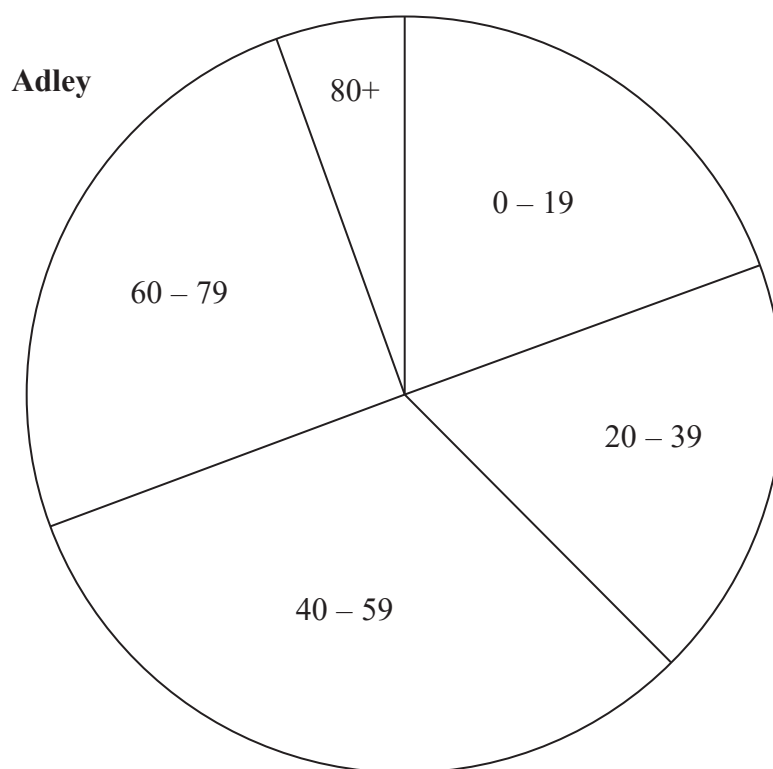
- (b) Work out this greatest speed.

(1)

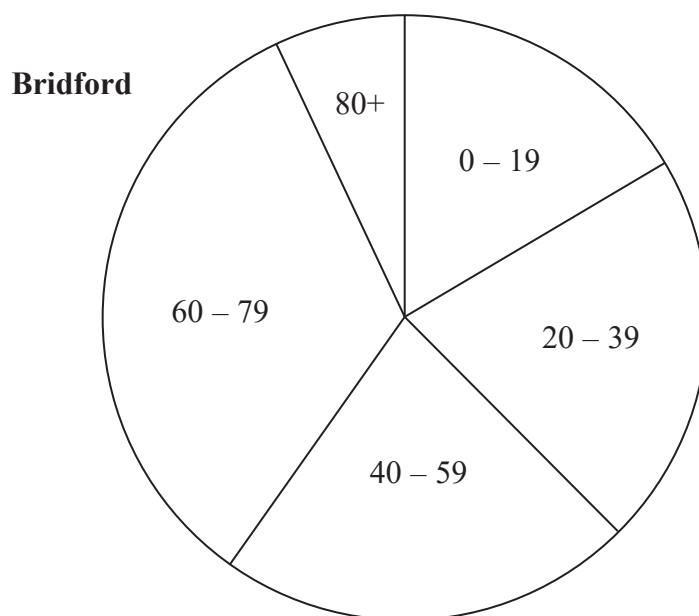
(Total for Question 1 is 3 marks)



- 2 The pie charts give information about the ages, in years, of people living in two towns, Adley and Bridford.



Diagrams
accurately
drawn



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The ratio of the number of people living in Adley to the number of people living in Bridford is given by the ratio of the areas of the pie charts.

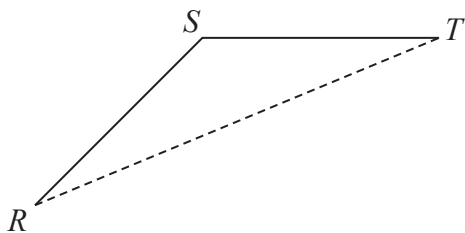
What proportion of the total number of people living in these two towns live in Adley **and** are aged 0 – 19?

Give your answer correct to 3 significant figures.

(Total for Question 2 is 3 marks)



3



RS and ST are 2 sides of a regular 12-sided polygon.
 RT is a diagonal of the polygon.

Work out the size of angle STR .
You must show your working.

(Total for Question 3 is 3 marks)

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- 4 At the beginning of 2009, Mr Veale bought a company.
The value of the company was £50 000

Each year the value of the company increased by 2%.

- (a) Calculate the value of the company at the beginning of 2017
Give your answer correct to the nearest £100

£
(2)

At the beginning of 2009 the value of a different company was £250 000
In 6 years the value of this company increased to £325 000

This is equivalent to an increase of $x\%$ each year.

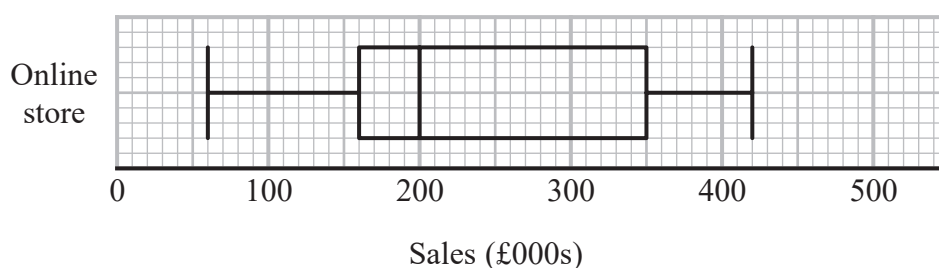
- (b) Find the value of x .
Give your answer correct to 2 significant figures.

.....
(3)

(Total for Question 4 is 5 marks)



- 5 The box plot shows information about the sales, in thousands of pounds (£000s), of an online store each month.



Andrew says,

“Three quarters of the given data lies between 160 000 and 350 000 because these are the values of the lower quartile and the upper quartile.”

Andrew is wrong.

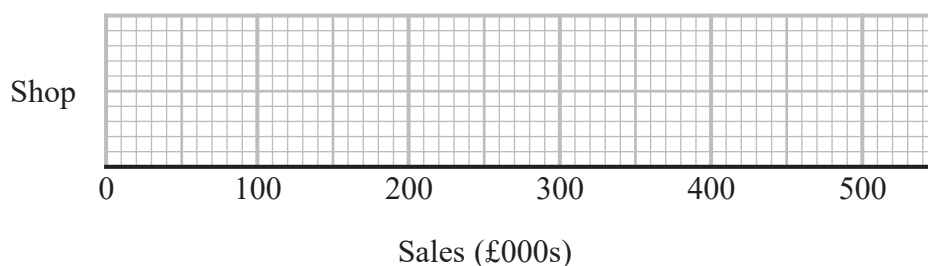
- (a) Explain why.

(1)

The table shows information about the sales, in £000s, in a shop each month.

	Sales (£000s)
least value	30
lower quartile	80
median	170
upper quartile	260
greatest value	350

- (b) On the grid below, draw a box plot for this information.



(2)

- (c) Compare the distribution of the sales of the online store with the distribution of the sales in the shop.

(2)

(Total for Question 5 is 5 marks)

- 6 Kieron has 13 workers he can use for a job.

He knows that 6 workers would take $14\frac{1}{2}$ days to complete this job.

Show that Kieron has enough workers to finish this job in less than 7 days.

(Total for Question 6 is 3 marks)

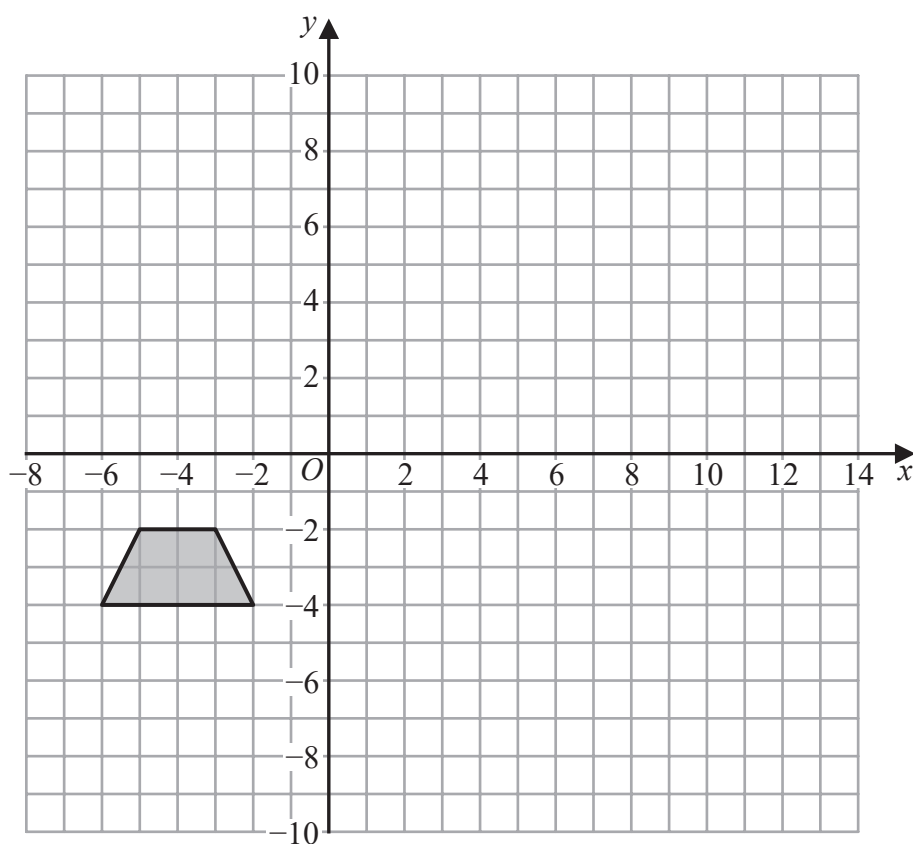


- 7 The equation of the line L_1 is $y = 2x + 3$
The equation of the line L_2 is $5y - 10x + 4 = 0$

Show that these two lines are parallel.

(Total for Question 7 is 2 marks)

8

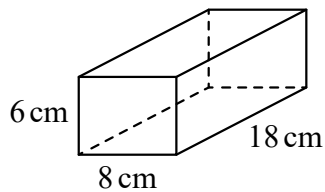
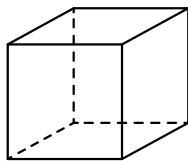


Enlarge the shaded shape by scale factor -2 with centre of enlargement $(0, 0)$

(Total for Question 8 is 2 marks)



- 9 The diagram shows a cube and a cuboid.



The total surface area of the cube is equal to the total surface area of the cuboid.

Janet says,

“The volume of the cube is equal to the volume of the cuboid.”

Is Janet correct?

You must show how you get your answer.

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(Total for Question 9 is 5 marks)

