

Mathematics

Paper 2 (Calculator)

Foundation Tier



Surname

Other names

You should have:

A pen, pencil, ruler, eraser and a scientific calculator.

Tracing paper may be used.

Information

- The total mark for this paper is 50
- The marks for each question are shown in brackets.
- Answer all questions in the spaces provided – *there may be more space than you need.*
- You must show all your working.
- Diagrams are not accurately drawn, unless otherwise indicated.
- Check your answers if you have time at the end.

1 What is $\frac{2}{5}$ of £80?

(1 mark)

2 a) Work out the square of 13

(1 mark)

b) Work out the cube root of 343

(1 mark)

3 a) Convert 300 g to kilograms.

(1 mark)

b) Convert 3.1 m to millimetres.

(1 mark)

4 Use your calculator to work out the calculation.

$$\frac{\sqrt{22.5}}{5.8 - 3.36}$$

a) Write all the digits on your calculator display.

_____ (1 mark)

b) Write your answer to part a), correct to 2 decimal places.

_____ (1 mark)

5 a) Simplify $c + c + c$

_____ (1 mark)

b) Simplify $2h \times 3p$

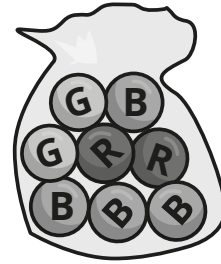
_____ (1 mark)

c) Simplify $9w + 2t - 2w + 3t$

_____ (2 marks)

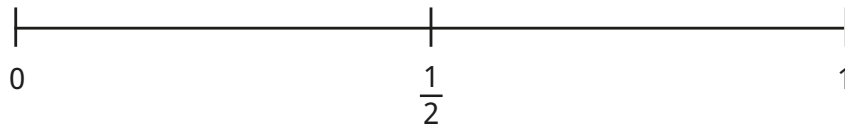
6 There are eight counters in a bag.

- Four counters are blue (B).
- Two counters are red (R).
- Two counters are green (G).



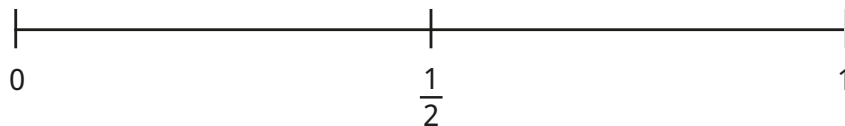
Annie picks a counter at random from the bag.

a) On the probability scale, mark with the letter B the probability that Annie will pick a blue counter.



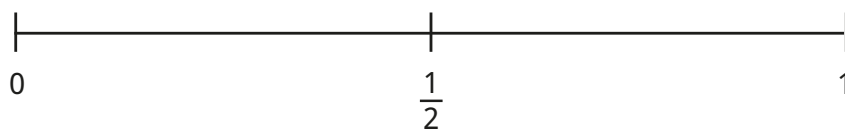
(1 mark)

b) On the probability scale, mark with the letter G the probability that Annie will pick a green counter.



(1 mark)

c) On the probability scale, mark with the letter P the probability that Annie will pick a pink counter.



(1 mark)

7 Solve the equations.

a) $5y - 6 = 10$

(2 marks)

b) $31 = 4(2 + 4x)$

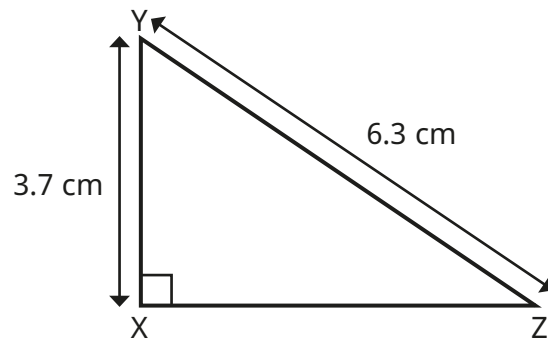
(3 marks)

8 Write the numbers in order of size.
Start with the smallest.

0.32 $\frac{2}{7}$ 30% $\frac{1}{3}$ $\frac{4}{10}$

(2 marks)

9



Triangle XYZ is right-angled.

$YZ = 6.3 \text{ cm}$

$XY = 3.7 \text{ cm}$

Work out the length of XZ.

Give your answer to 3 significant figures.

(3 marks)

10 a) Solve the inequality $7x - 3 > 18$

(2 marks)

x is an integer such that $7x - 3 > 18$

b) What is the smallest possible value of x ?

(1 mark)

- 11** Some students did a survey, asking people to name their favourite leisure activity. The table gives some information about the answers they received.

Favourite leisure activity	Percentage
playing sports	22%
shopping	14%
listening to music	9%
other	

- a)** Complete the table.

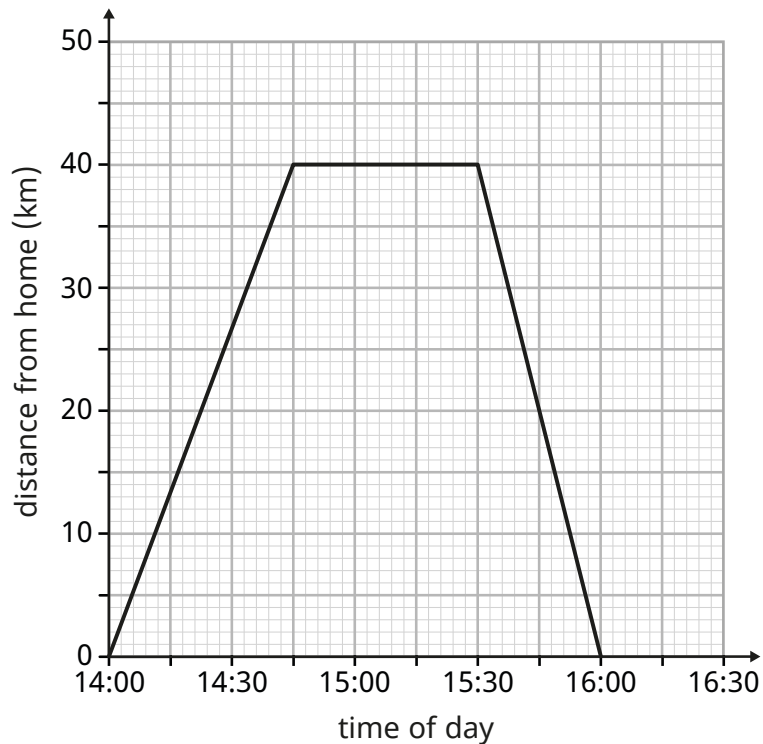
(1 mark)

400 people were asked in the survey.

- b)** How many people said their favourite leisure activity was listening to music?

(2 marks)

- 12** Mr Rose drove from home to pick up his children from a concert. He waited in the car park for the children and then drove home. Here is the distance-time graph for Mr Rose's complete journey.



- a)** What is the distance from Mr Rose's home to the concert?

_____ (1 mark)

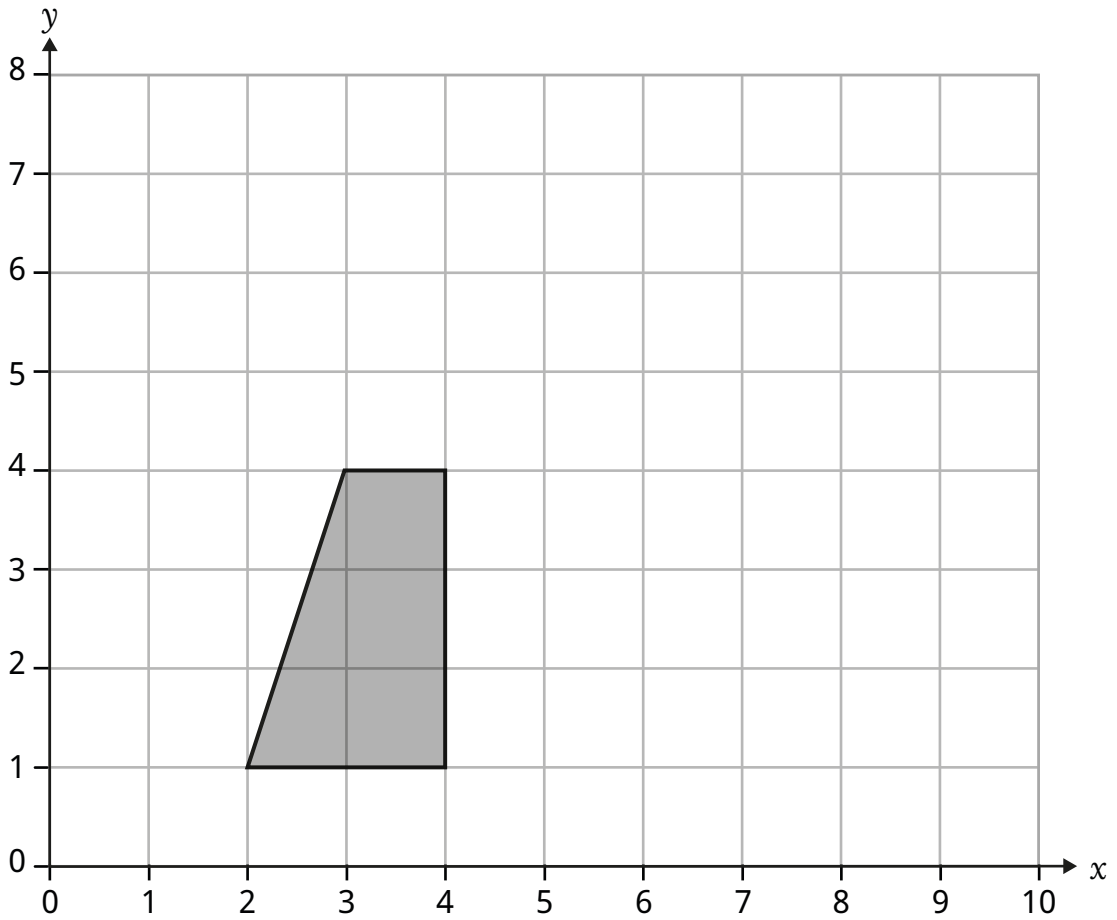
- b)** How many minutes did Mr Rose wait in the car park?

_____ (1 mark)

- c)** Work out Mr Rose's average speed on his journey home from the concert. Give your answer in kilometres per hour.

_____ (2 marks)

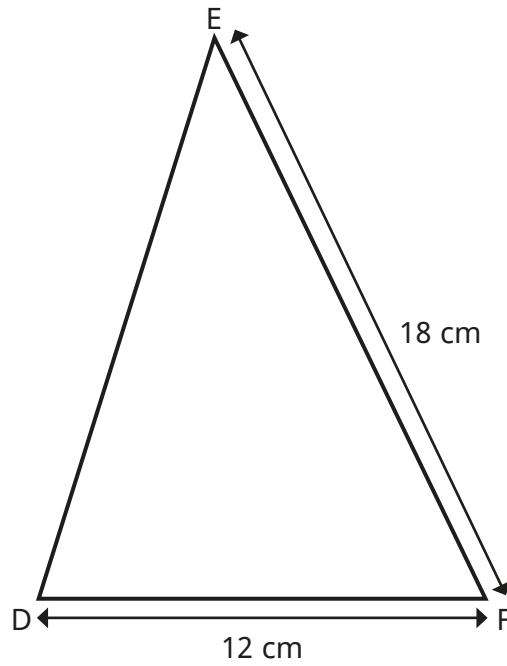
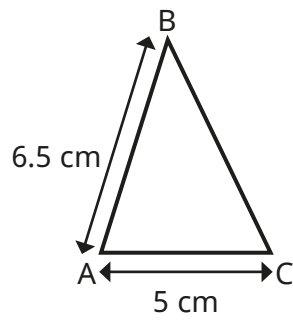
13



On the grid, enlarge the shape by a scale factor of 2, centre (0, 0).

(3 marks)

14



Triangles ABC and DEF are similar.

$$AB = 6.5 \text{ cm}$$

$$AC = 5 \text{ cm}$$

$$EF = 18 \text{ cm}$$

$$DF = 12 \text{ cm}$$

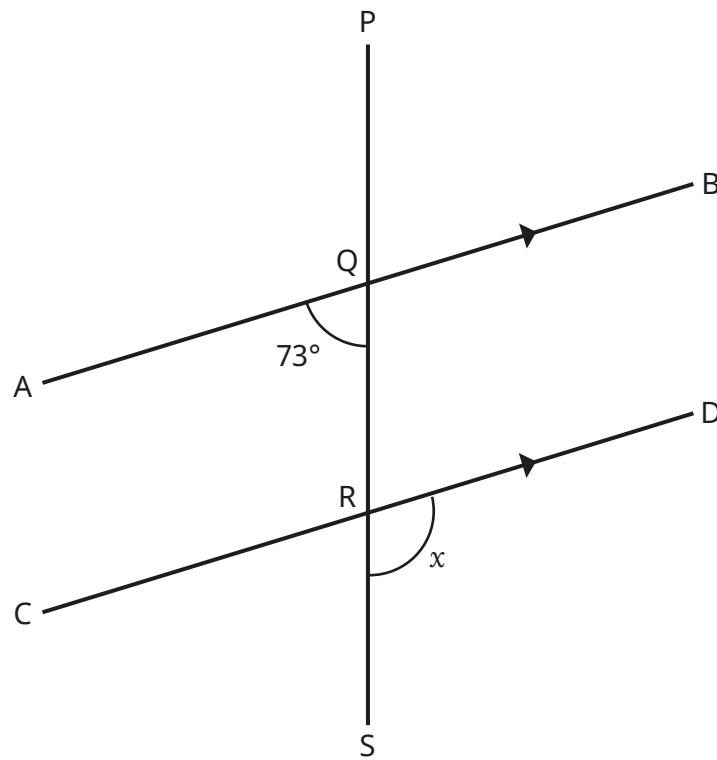
a) Work out the length of DE.

_____ (2 marks)

b) Work out the length of BC.

_____ (2 marks)

15



AQB, CRD and PQRS are straight lines.

AB is parallel to CD.

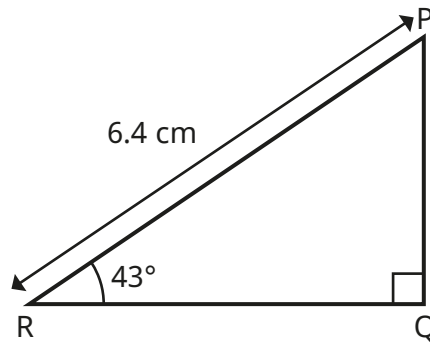
Angle AQR = 73° .

Work out the value of x .

Give reasons for your answer.

(3 marks)

16 a)

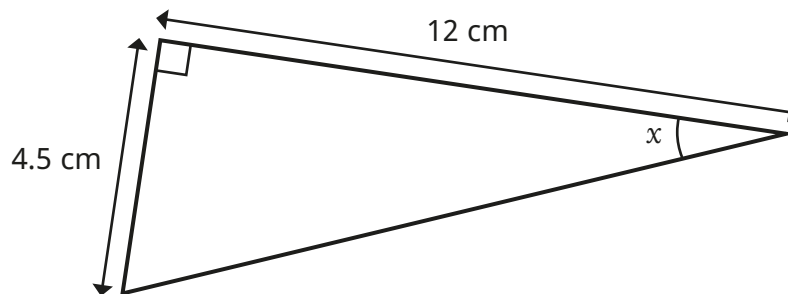


Work out the length of PQ.

Give your answer correct to 3 significant figures.

(2 marks)

b)

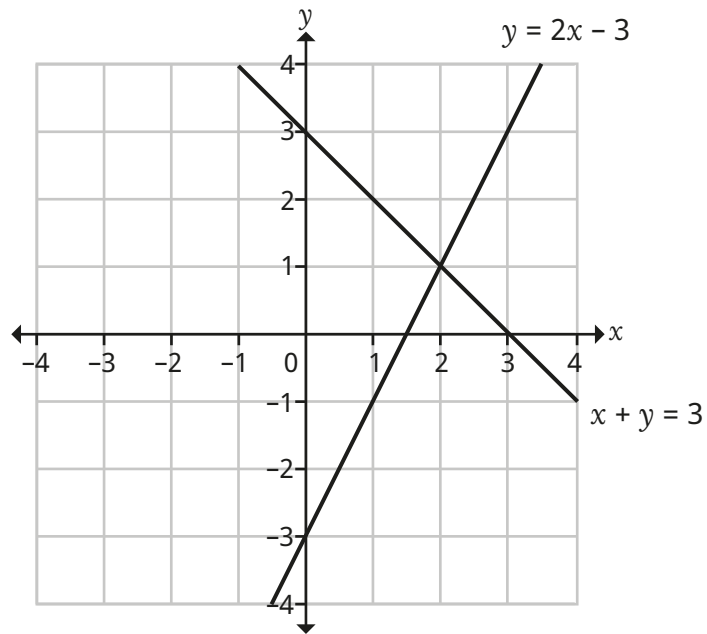


Calculate the value of x .

Give your answer correct to 1 decimal place.

(2 marks)

17 The graphs of the straight lines $y = 2x - 3$ and $x + y = 3$ have been drawn on the grid.



Use the graphs to solve the simultaneous equations.

$$y = 2x - 3$$

$$x + y = 3$$

$x =$ _____

$y =$ _____

(2 marks)

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