



THIRD SPACE
LEARNING

Mathematics

Paper 2

(Calculator)

Foundation Tier

AQA GCSE

SET 2

Mathematics Paper 2 (Calculator) Foundation Tier AQA

GCSE SET 2

Name

Total marks



Paper length: 1hr 30mins

Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the 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.
- Calculators may be used.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets
 - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

- 1 Circle the fraction which is equivalent to 0.8

[1 mark]

$$\frac{1}{8} \quad \frac{8}{100} \quad \frac{4}{5} \quad \frac{8}{11}$$

- 2 Which of these numbers is 2 more than a square number?

Circle your answer.

[1 mark]

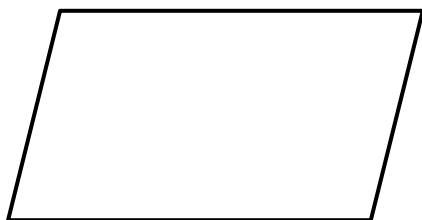
$$11 \quad 32 \quad 23 \quad 4$$

- 3 Circle the expression that has the smallest value when $x = 10$

[1 mark]

$$20 - x \quad \frac{1}{2}x \quad x - 3 \quad 2x - 20$$

- 4 Here is a parallelogram.



Write down the order of rotational symmetry of the parallelogram.

[1 mark]

Answer _____

- 5 Ben and Maizy go to the cinema. Here is the price list.

Ticket	£4.99
Popcorn	£2.50
Sweets	£1.95
Crisps	£1.70
Drinks	£2.10

Ben and Maizy buy a ticket each.

Ben has popcorn and a drink.

Maizy has sweets and a drink.

They pay together with a £20 note.

How much change do they get?

[3 marks]

£ _____

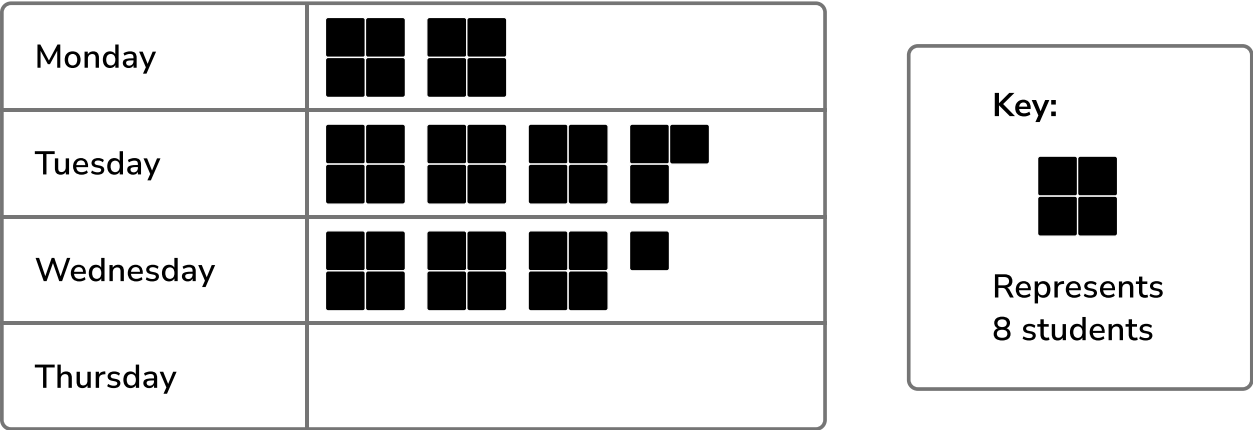
- 6 Nia is n years old. Nia is twice as old as Ifan.

Write an expression, in terms of n , for Ifan's age.

[1 mark]

Answer _____

7 The pictogram shows information about the number of year 7 students who had school dinners on Monday, Tuesday and Wednesday.



On Thursday, 20 students had school dinners.

7(a) Use this information to complete the pictogram.

[1 mark]

There are 56 students in year 7.

7(b) Lily says that on Tuesday more than half of the students in year 7 had school dinners.

Is Lily correct?

Explain how you know.

[2 marks]

8 Write down two numbers that
are multiples of 7
and
add to make 63

[2 marks]

Answer _____ and _____

9 Here is a list of numbers.

4 11 7 9 4 1 2 6

9(a) Work out the mean.

[2 marks]

Answer _____

9(b) One number is picked at random.

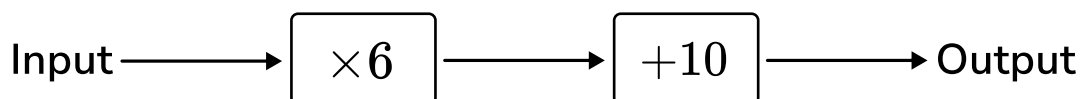
What is the probability it is a number less than 6?

[2 marks]

Answer _____

Turn over for the next question

10 Here is a number machine.



10(a) Work out the output when the input is 5.

[1 mark]

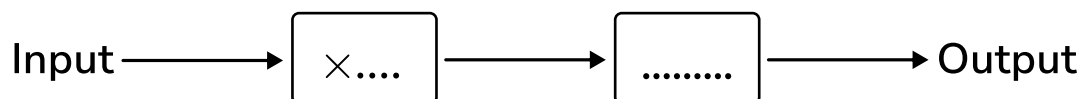
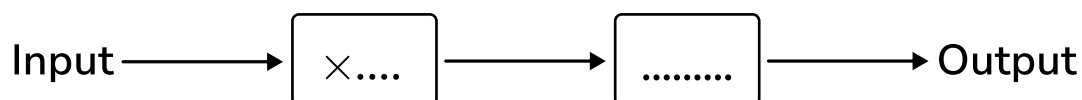
Answer _____

Willow is going to create a different number machine.

She wants the output to be 16 when the input is 3.

10(b) Complete the number machines below to show two different combinations of functions she could use.

[2 marks]



11 Harry gets paid £11.20 per hour.
On Monday he starts work at 09 15 and finishes at 16 45.

11(a) How much does Harry get paid on Monday? **[2 marks]**

£ _____

It takes Harry 12 minutes to walk to the bus station. He gets off the bus at Kingfisher Close and it then takes him 4 minutes to walk home.

Here is a section of the bus timetable.

Bus station	Kingfisher Close
16 48	17 02
17 03	17 17
17 18	17 32

11(b) What is the earliest Harry could arrive home on Monday? **[3 marks]**

Answer _____

12(a) Solve $x + 11 = 20$

[1 mark]

$x =$ _____

12(b) Solve $\frac{y}{3} - 5 = 6$

[2 marks]

$y =$ _____

Turn over for the next question

13 Here are the test results of three students.

Jack	$\frac{10}{12}$
Yasmin	$\frac{15}{20}$
Sam	$\frac{11}{15}$

Yasmin says ‘I have done the best as I got the highest mark’.

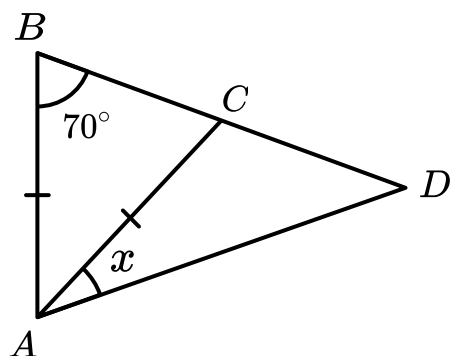
By comparing the fractions, decide whether Yasmin is correct.

You must show all of your working.

[3 marks]

Turn over for the next question

- 14** Triangles ABC and ABD are both isosceles triangles, where $AB = AC$ and $AD = BD$
Angle $ABD = 70^\circ$.



Work out the size of angle x .

[3 marks]

$x =$ _____ $^\circ$

Turn over for the next question

15 Here are two calculations.

A

$$\frac{\sqrt{28.5} + 5.7}{0.56}$$

B

$$3.1^2 + \frac{11}{2.4}$$

Complete the statement below by inserting the correct symbol from $<$, $>$ or $=$

You must show how you decide.

[3 marks]

A _____ B

16 Lorraine and Emma decide to meet between their two houses.

The meeting place is 27 *miles* from Lorraine's house and 39 *km* from Emma's house.

Use 8 *km* = 5 *miles* to decide which of the following statements is true.

[2 marks]

☐

Emma lives closer to the meeting point than Lorraine

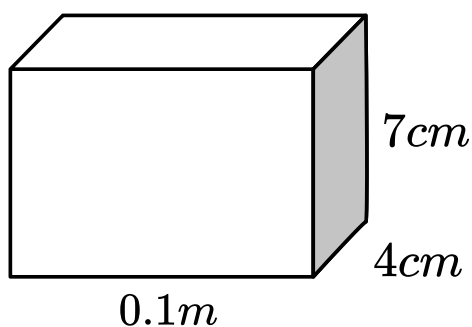
☐

Lorraine lives closer to the meeting point than Emma

☐

Emma and Lorraine live the same distance from the meeting point

17 Here is a cuboid.



Lianne says the volume of the cuboid is $0.1 \times 4 \times 7 = 2.8cm^2$.

Write down two mistakes Lily has made.

[2 marks]

Mistake 1:

Mistake 2:

18 Make p the subject of the formula $h = 6p - 7$

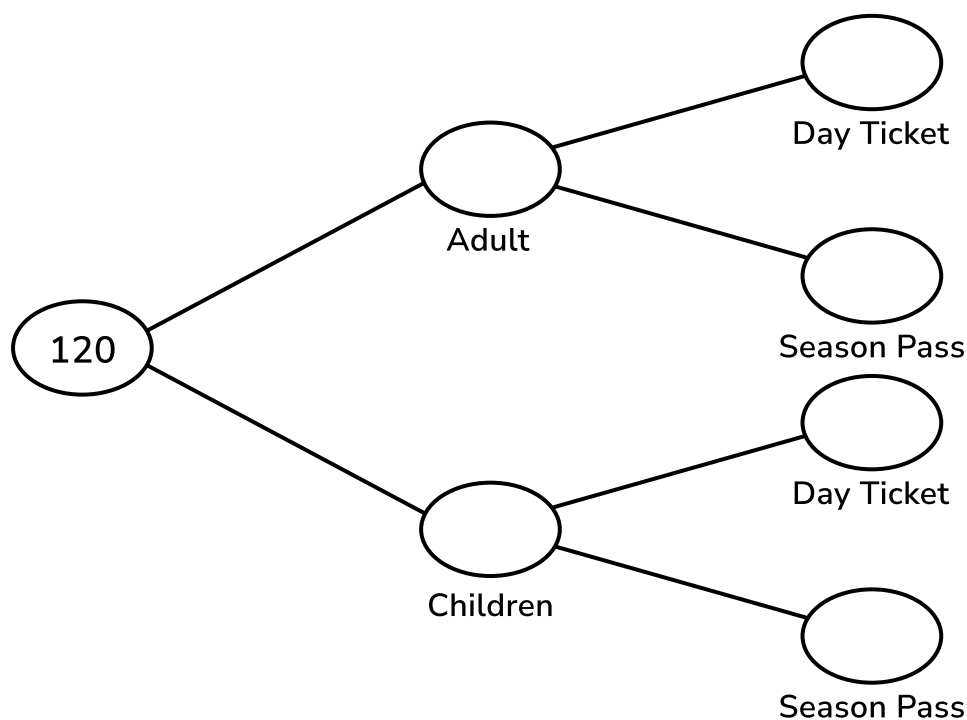
[2 marks]

Answer _____

- 19** 120 people go to the zoo.
The ratio of adults to children is 7:8.
15 of the adults have season passes.
75% of the people bought day tickets.

19(a) Complete the frequency tree for this information.

[4 marks]

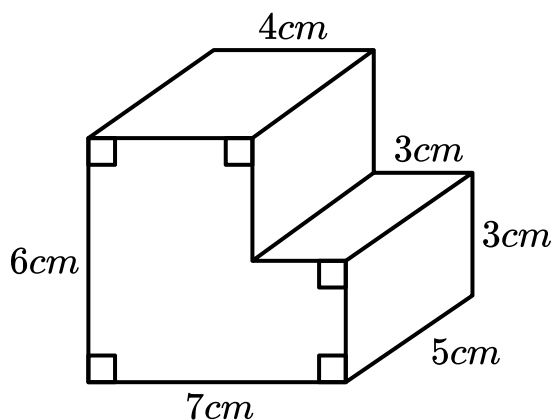


19(b) One of the children is picked at random. What is the probability that the child has a season pass?

[2 marks]

Answer _____

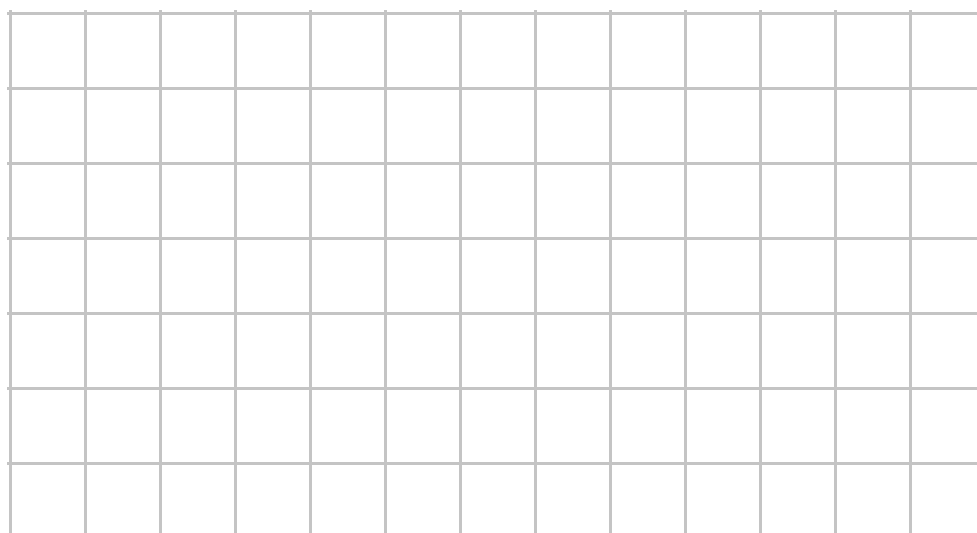
- 20** The diagram shows a solid prism.



*Diagram NOT
accurately drawn*

- 23(a)** On the centimetre square grid, draw the plan of the solid prism.

[2 marks]



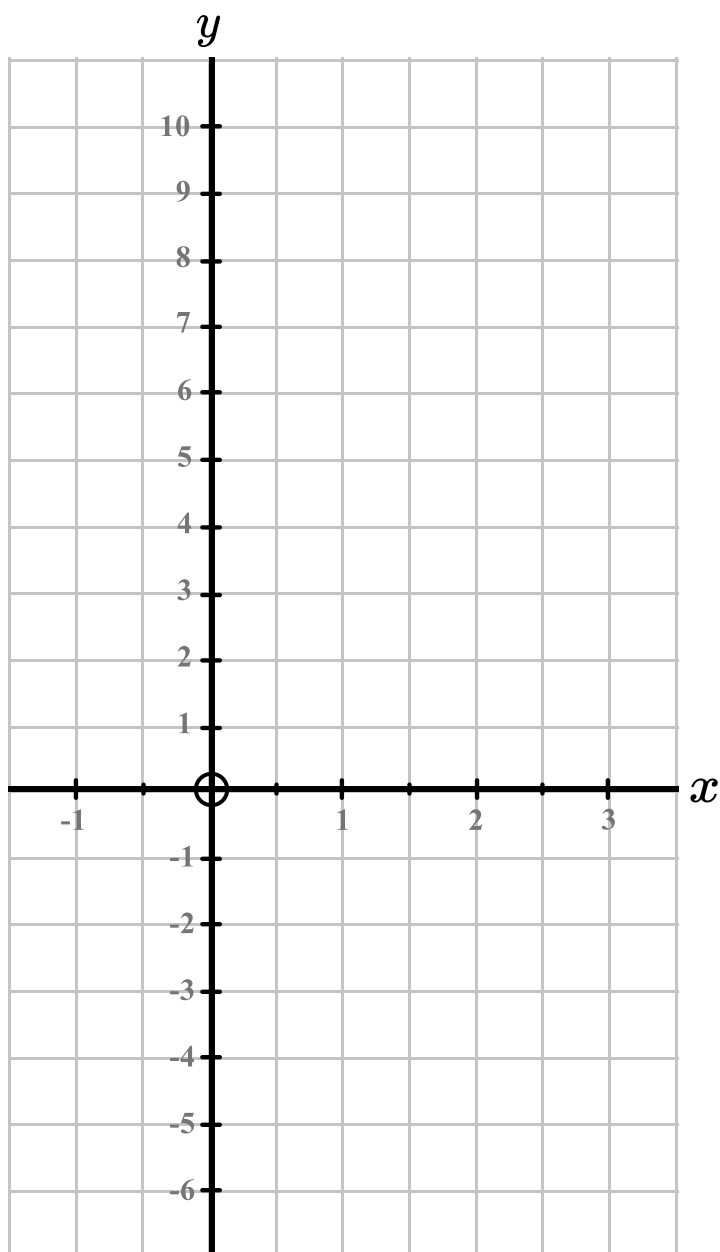
- 23(b)** Write down the number of vertices that this prism has.

[1 mark]

Answer _____

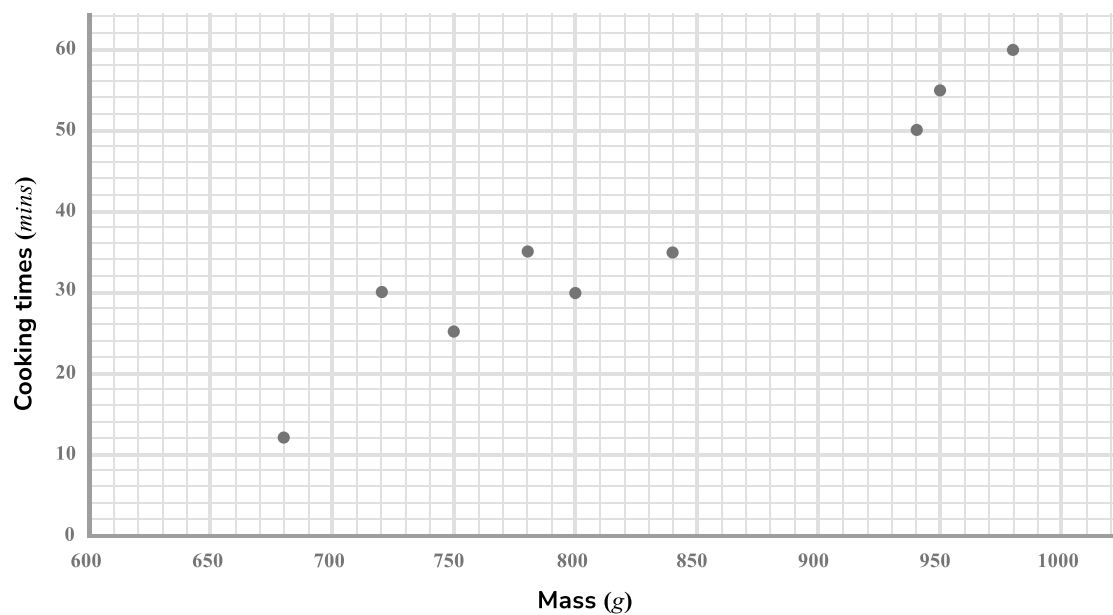
21 On the grid below, draw the graph of $y = 3x - 1$ for values of x from -1 to 3 .

[3 marks]



Turn over for the next question

22 This scatter diagram shows information about the cooking times of a variety of cakes.



Here is some information about another three cakes.

Mass (g)	750	850	700
Cooking time (mins)	35	50	20

22(a) Plot this information on the scatter diagram.

[2 marks]

22(b) What type of correlation does this scatter diagram show?

[1 mark]

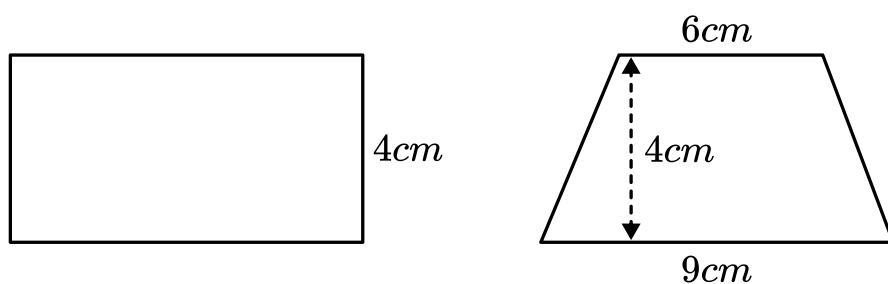
Answer _____

22(c) Use the scatter diagram to estimate the cooking time of a cake which weighs 900g.

[2 marks]

Answer _____ minutes

23 Here is a rectangle and a trapezium.



The area of the rectangle is 40% greater than the area of the trapezium.

Work out the length of the rectangle.

[4 marks]

Answer _____ *cm*

Turn over for the next question

24 A box holds 12 doughnuts.

It takes 500g of flour to make 20 doughnuts.

Linda needs to make 4 boxes of doughnuts and she has 1.5kg of flour.

Does Linda have enough flour to make 4 boxes of doughnuts?

You must show how you decide.

[4 marks]

Answer _____

25 Solve the simultaneous equations

$$3a + 2b = 20$$

$$4a - 3b = 12.5$$

[3 marks]

$a =$ _____ $b =$ _____

26 ABCD is a quadrilateral made from two right angled triangles.

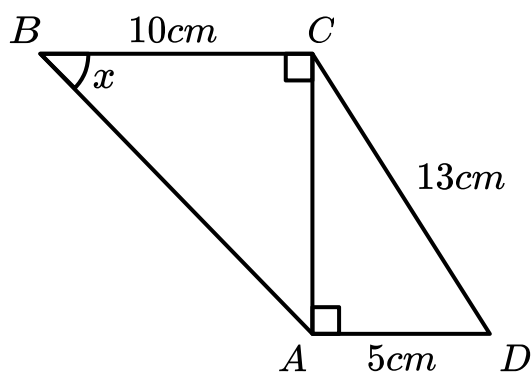


Diagram NOT
accurately drawn

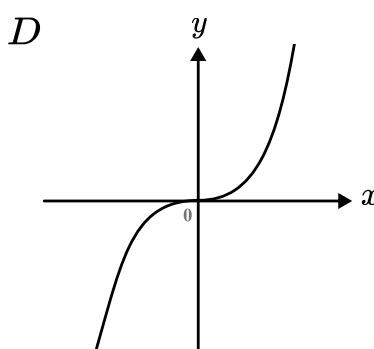
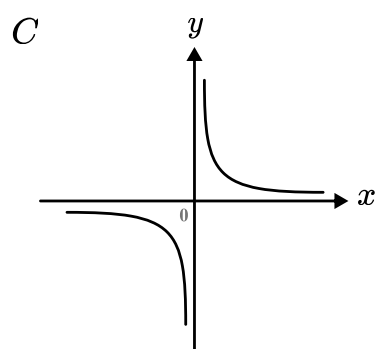
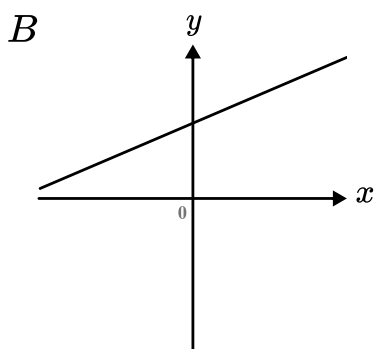
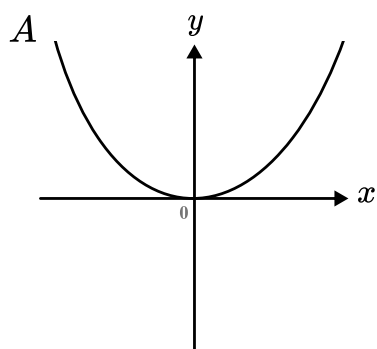
Work out the size of angle x .

Give your answer to 1 decimal place.

[4 marks]

$x =$ _____ °

27 Here are four graphs.



Write down the letter of the graph that could have equation:

[3 marks]

$y = \frac{1}{2}x + 3$	
$y = x^3$	
$y = \frac{1}{x}$	

Turn over for the next question

28 Here are two column vectors.

$$\mathbf{a} = \begin{pmatrix} 3 \\ 1 \end{pmatrix} \quad \mathbf{b} = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$$

On the grid below, draw and label the vector $2\mathbf{a} + \mathbf{b}$

[2 marks]



End of questions

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