

Name: \_\_\_\_\_

GCSE Foundation  
Set B  
Calculator Paper



Corbettmaths

**Equipment**

1. A blue or black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.
7. A calculator

**Guidance**

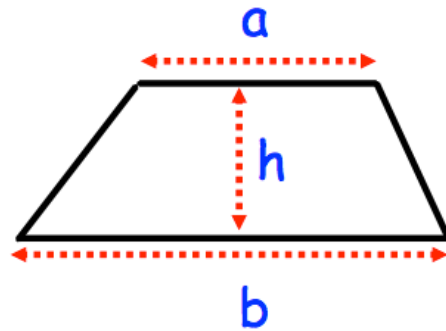
1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

**Information**

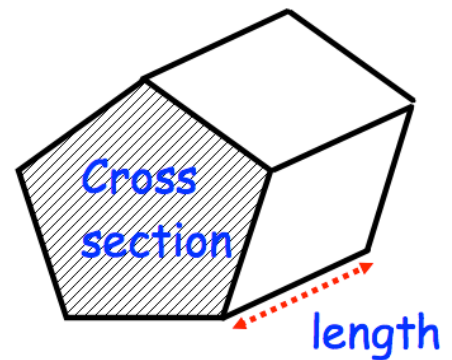
1. The maximum mark for this paper is 100.
2. The marks for questions are shown in brackets
3. You may ask for more lined, graph or tracing paper.

Question	Mark	Available
1		4
2		1
3		4
4		2
5		5
6		4
7		2
8		2
9		3
10		3
11		5
12		5
13		4
14		5
15		3
16		2
17		2
18		4
19		3
20		6
21		6
22		5
23		4
24		4
25		3
26		2
27		3
28		4
<b>Total</b>		<b>100</b>

Area of a Trapezium =  $\frac{1}{2}(a + b)h$



Volume of a prism = area of cross section x length



1. (a) Write the number 8031 in words.

.....  
(1)

(b) Write the number **fifteen thousand and twenty** in figures.

.....  
(1)

(c) Write the number 28501 to the nearest thousand.

.....  
(1)

(d) Write down the value of the 3 in the number 6301

.....  
(1)

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2. Draw a circle of radius 4cm with centre O.



(1)

3. Mr Smith is going to take his family to a museum.

Adult	£17.75
Child (5 - 16)	£13.65
Child (under 5)	Free

Mr Smith wants to buy tickets for four adults and two children aged 4 and 10.

(a) How much in total will the tickets cost?

£.....  
(2)

Mr Smith pays with five £20 notes.

(b) How much change should he get?

£.....  
(2)

4.

Impossible	Unlikely	Even chance	Likely	Certain
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From the words above, choose what best describe the probability

(a) that the next baby born will be a girl

.....  
**(1)**

(b) that it will snow in May next year in Bristol

.....  
**(1)**

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5. A group of students were asked their favourite subject.

Here are their replies.

Maths	Art	Science	English	Art
Maths	English	Science	Art	English
Maths	Maths	Art	Maths	Science

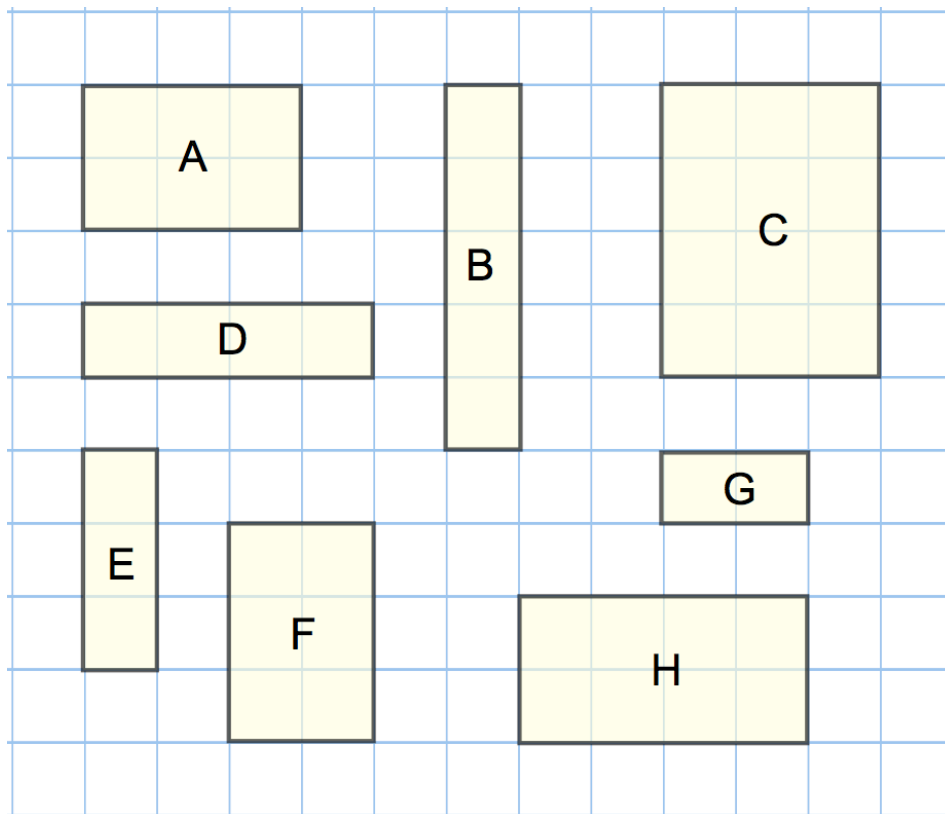
(a) Show this information in a tally chart.

(2)

(b) Draw a bar chart to show this information.


(3)

6. Here are some rectangles on a grid of centimetre squares.



(a) Find the area of rectangle C.

.....cm<sup>2</sup>  
(1)

(b) Find the perimeter of rectangle B.

.....cm  
(1)

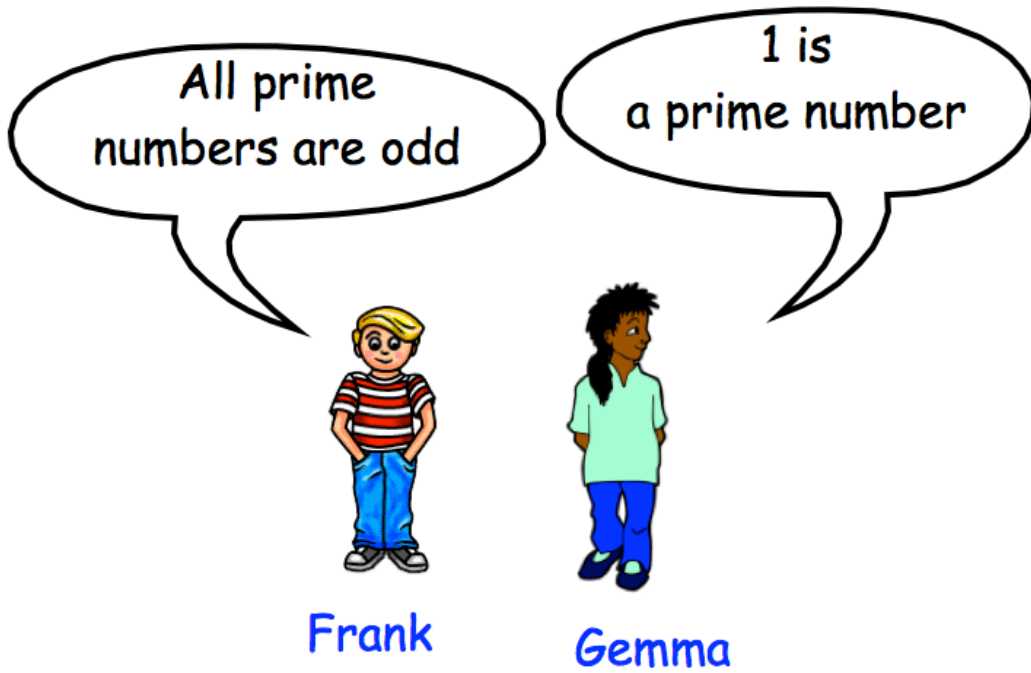
(c) Write down the names of the two rectangles that are congruent.

..... and .....  
(1)

(d) Which rectangle is an enlargement of rectangle G?

.....  
(1)

7.



Give a reason why each child is wrong.

Frank: .....

.....

Gemma: .....

.....

(2)

8. 729 is both a square number and a cube number.

Find two other numbers that are both square numbers and cube numbers.

..... and .....

(2)



9. The names of three quadrilaterals are below.

square      kite      parallelogram

Write each name in the correct position in the table below.

	Line Symmetry	No Line Symmetry
Two pairs of parallel lines		
No parallel lines		

(3)

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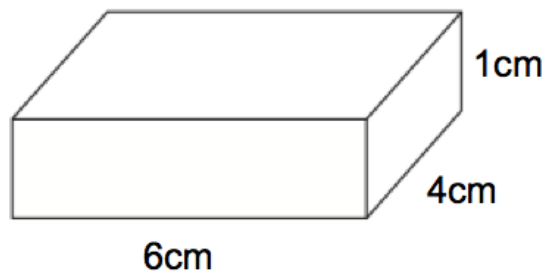
10. Aidan thinks of a number.  
He doubles the number.  
He add 9

His answer is 27

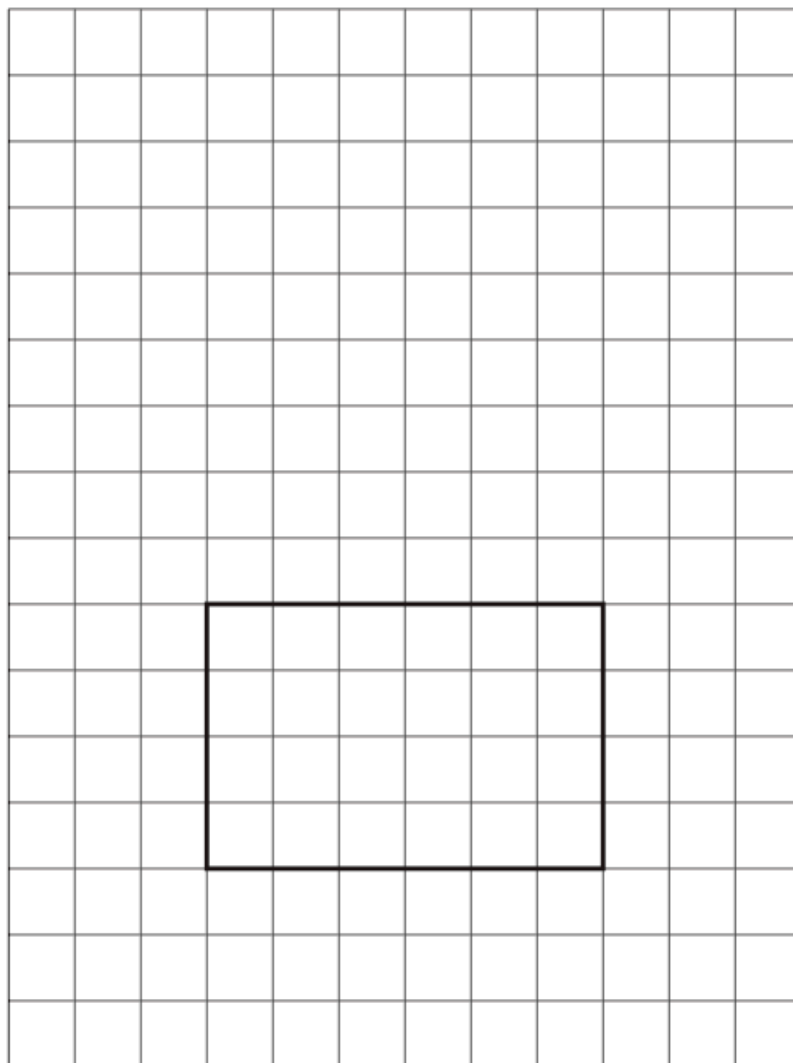
What number does Aidan think of?

.....  
(3)

11. Below is a cuboid with length 6cm, width 4cm and height 1cm.



(a) Complete an accurate net of the cuboid.  
Each square represents  $1\text{cm}^2$

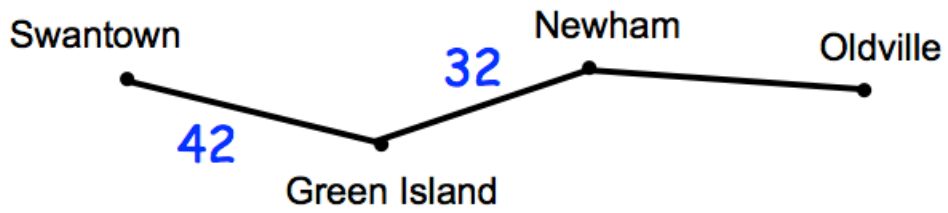


(b) Work out the total surface area of the cuboid.

(3)

..... $\text{cm}^2$   
(2)

12. Here is a route map between four towns.  
The distances, in kilometres, between some of the towns are shown on the map.



The distance from Swantown to Oldville is 95 kilometres.

- (a) Work out the distance from Newham to Oldville.

..... kilometres  
(2)

- (b) Complete the distance chart below to show the distances between the towns.

Swantown			
42	Green Island		
	32	Newham	
			Oldville

(3)

13. Miss Jenkins is working out the cost of the gas she used in December.

Gas Meter Readings	
1 <sup>st</sup> December	49822
31 <sup>st</sup> December	50125

Miss Jenkins has to pay

19.5p for each of the first 180 used in December.

and 8p for each of all the other units used in December.

Work out the total cost of the gas she used in December.

£.....  
(4)

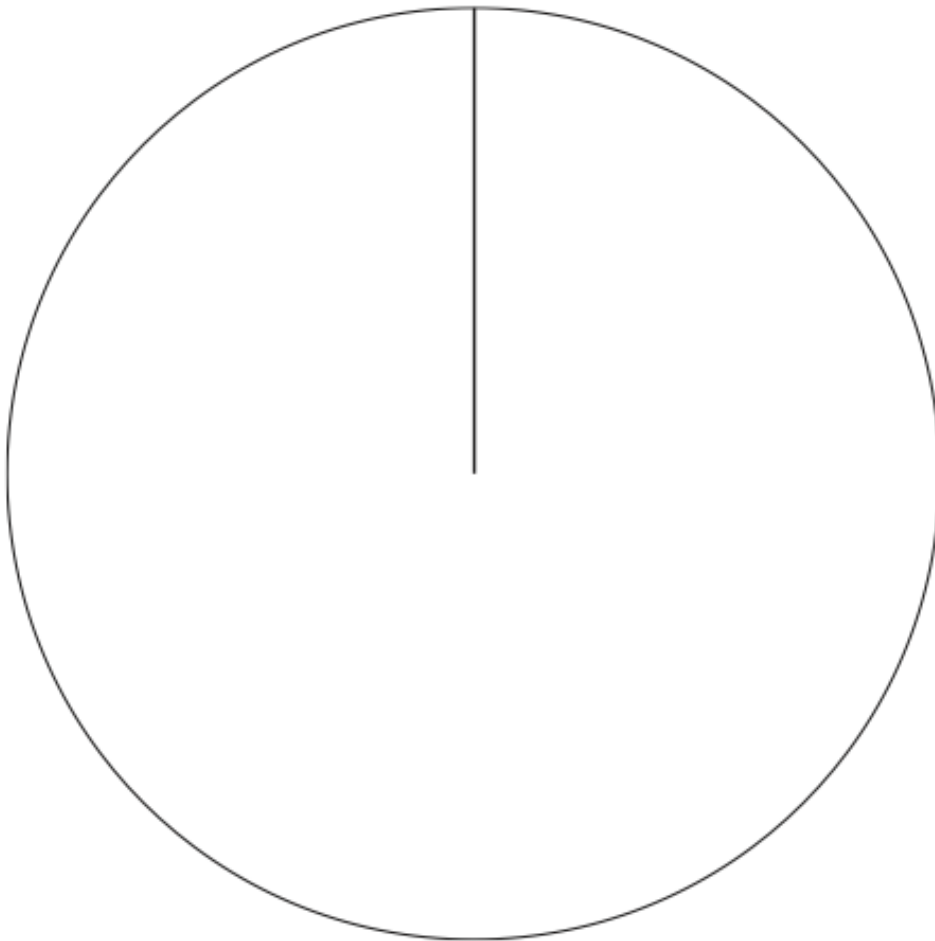
14. How Katie allocates her wages is shown in the table below.

	Percentage	Angle in a pie chart
Rent	25%	
Other spending	45%	
Savings		

(a) Complete the table.

**(3)**

(b) Draw an accurate pie chart to show this information.



**(2)**

15. James has received two job offers.

A job in Milan which pays €55,000 a year.

A job in Boston which pays \$64,000 a year.

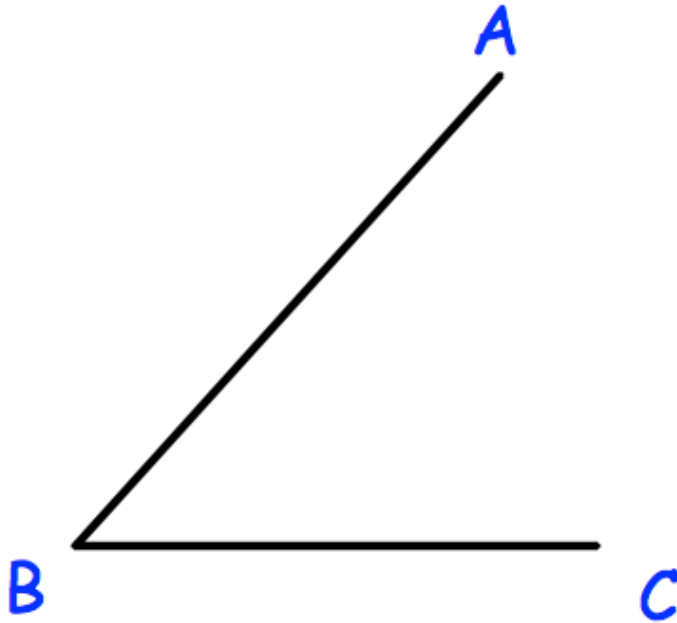
The exchange rates were  $\text{£}1 = \$1.42$  and  $\text{£}1 = \text{€}1.25$ .

Which job offer has the highest salary?

Show working to explain your answer.

**(3)**

16. Using ruler and compasses, construct the bisector of angle ABC.



(2)

- 
17. James has been given a pay rise of 7.5%  
His salary used to be £24,000 per year.

What is his new salary?

£.....  
(2)

18. Sarah is  $x$  years old.  
Thomas is 3 years older than Sarah.  
David is twice as old as Sarah.  
The total of their ages is 51.

(a) Write an expression for Thomas's age in terms of  $x$ .

.....  
(1)

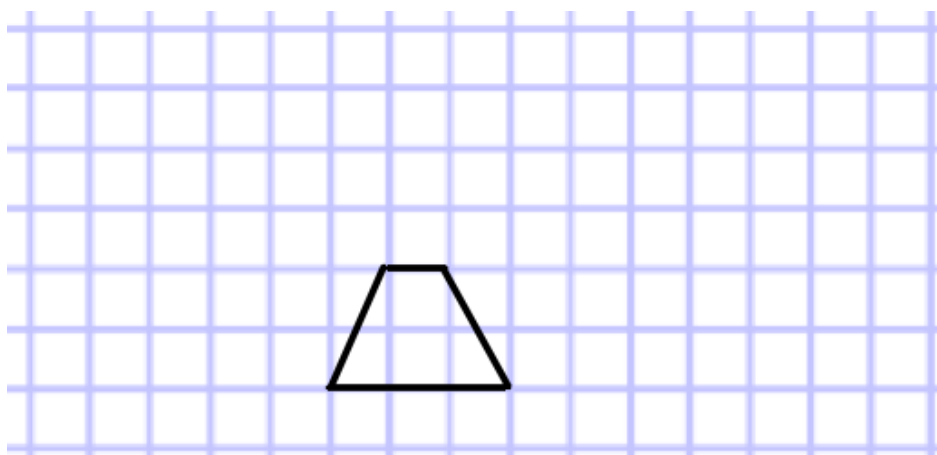
(b) Write an expression for David's age in terms of  $x$ .

.....  
(1)

(c) Form an equation in  $x$  and solve it to work out Sarah's age.

.....  
(2)

19. A quadrilateral is drawn below.



(a) What is the name of the quadrilateral?

.....  
(1)

(b) On the grid above, show how the quadrilateral tessellates.  
You should draw at least 8 shapes.

(2)



20. A football team played six games.

Here are the number of goals they scored in each game:

6    0    3    2    2    5

(a) Work out the median number of goals scored.

.....  
(2)

(b) Work out the mean number of goals scored.

.....  
(2)

The football team play one more game.  
The mean number of goals scored increases to 4.

(c) Work out the number of goals scored in the seventh game.

.....  
(2)

21. (a) Solve  $2e - 8 = 14$

$e = \dots\dots\dots$   
(2)

(b) Solve

$$\frac{w + 3}{4} = 6$$

$w = \dots\dots\dots$   
(2)

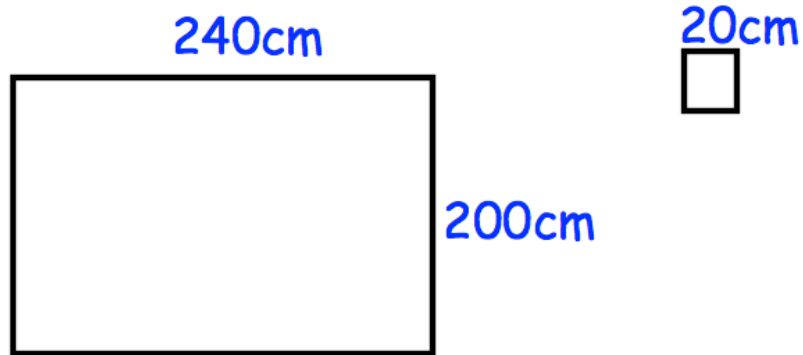
(c) Solve  $3(y + 4) = 24$

$w = \dots\dots\dots$   
(2)

22. Jessica is tiling her bathroom wall.

The wall is 240cm by 200cm.

The tiles are squares with side length 20cm.



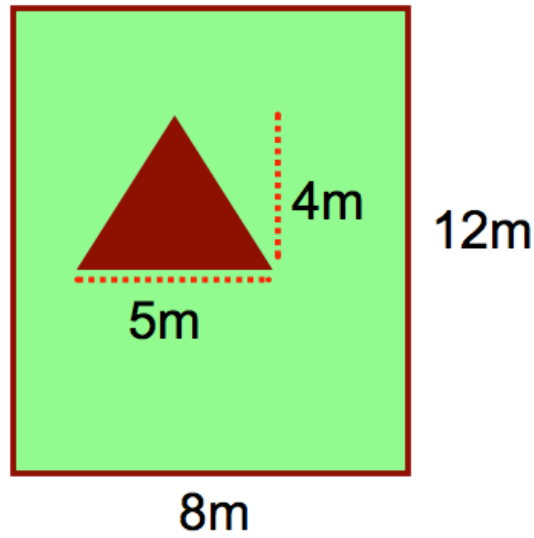
Each box contains 15 tiles and costs £8.75.

How much will it cost Jessica for the tiles?

£.....

(5)

23. The diagram below shows a garden.

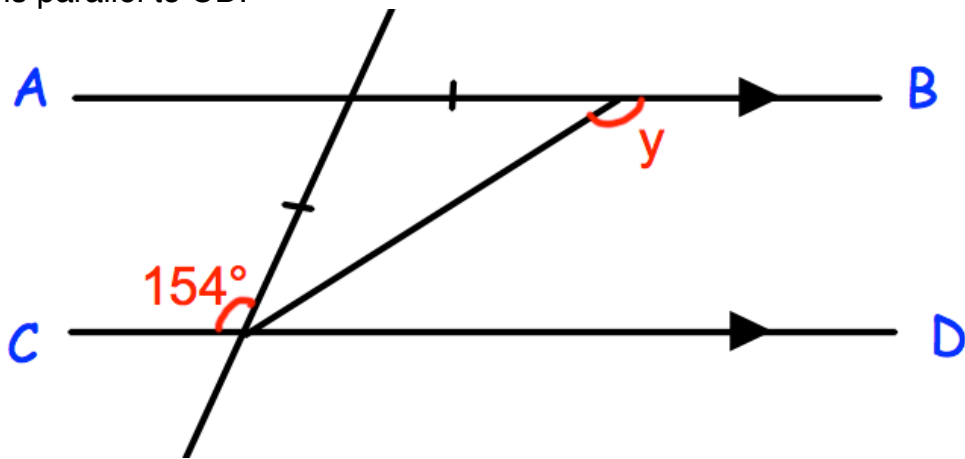


The garden has a triangular vegetable patch and the rest of the garden is grass.

Calculate the area of the garden that is grass.

.....m<sup>2</sup>  
(4)

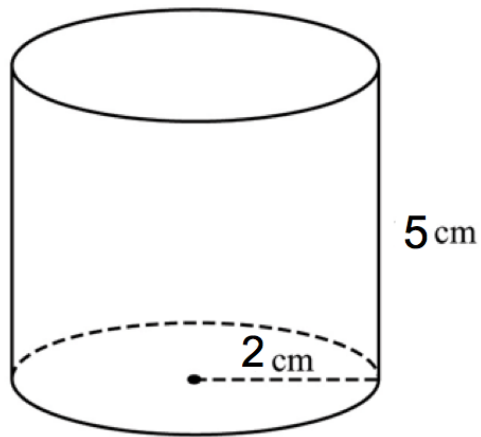
24. AB is parallel to CD.



Work out the size of angle  $y$ .  
Give reasons for your answer.

.....<sup>o</sup>  
(4)

25. Below is a cylinder with radius 2cm and height 5cm.



Calculate the volume of the cylinder.  
Give your answer to 1 decimal place.

.....cm<sup>3</sup>  
(4)

26. Sebastian leaves £4000 in the bank for two years.  
It earns compound interest of 2% per year.

Calculate the total amount Sebastian has in the bank at the end of the two years.

£.....  
(2)

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27. (a) Factorise

$$15y + 20$$

.....  
(1)

- (b) Factorise fully

$$9m^2 - 12mp$$

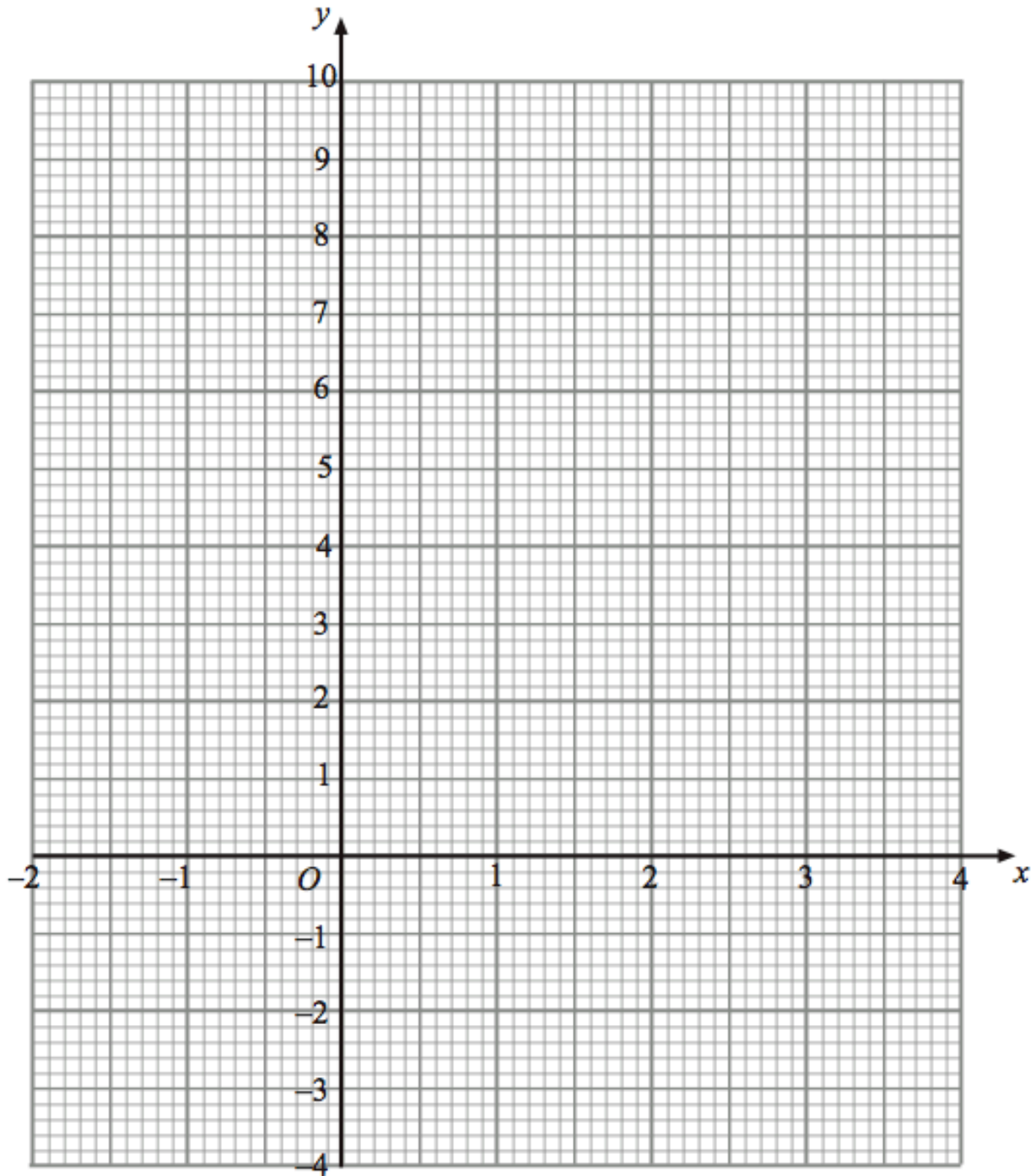
.....  
(2)

28. (a) Complete the table of values for  $y = x^2 - 3x$

$x$	-2	-1	0	1	2	3	4
$y$	10		0	-2		0	

(2)

(b) On the grid, draw the graph of  $y = x^2 - 3x$  for the values of  $x$  from -2 to 4.



(2)