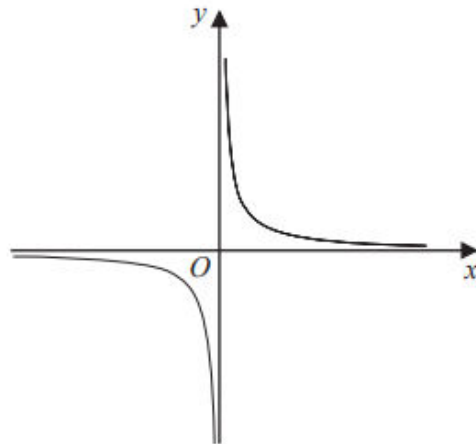


DRAWING GRAPHS

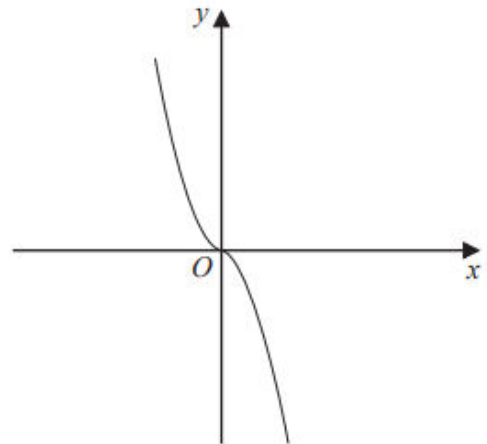
Pearson Edexcel - Tuesday 19 May 2020 - Paper 1 (Non-Calculator) Foundation Tier

1.

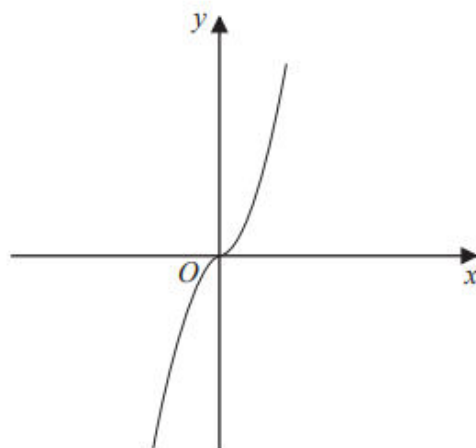
22 The diagram shows four graphs.



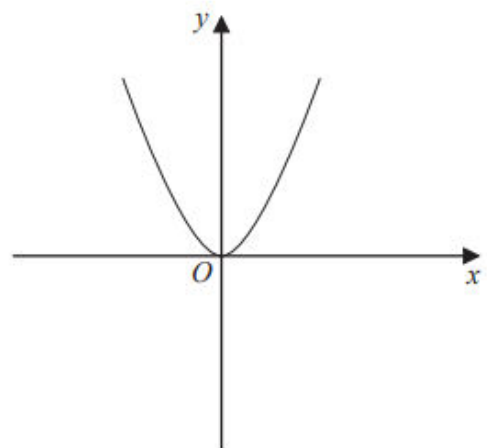
Graph A



Graph B



Graph C



Graph D

Each of the equations in the table is the equation of one of the graphs.

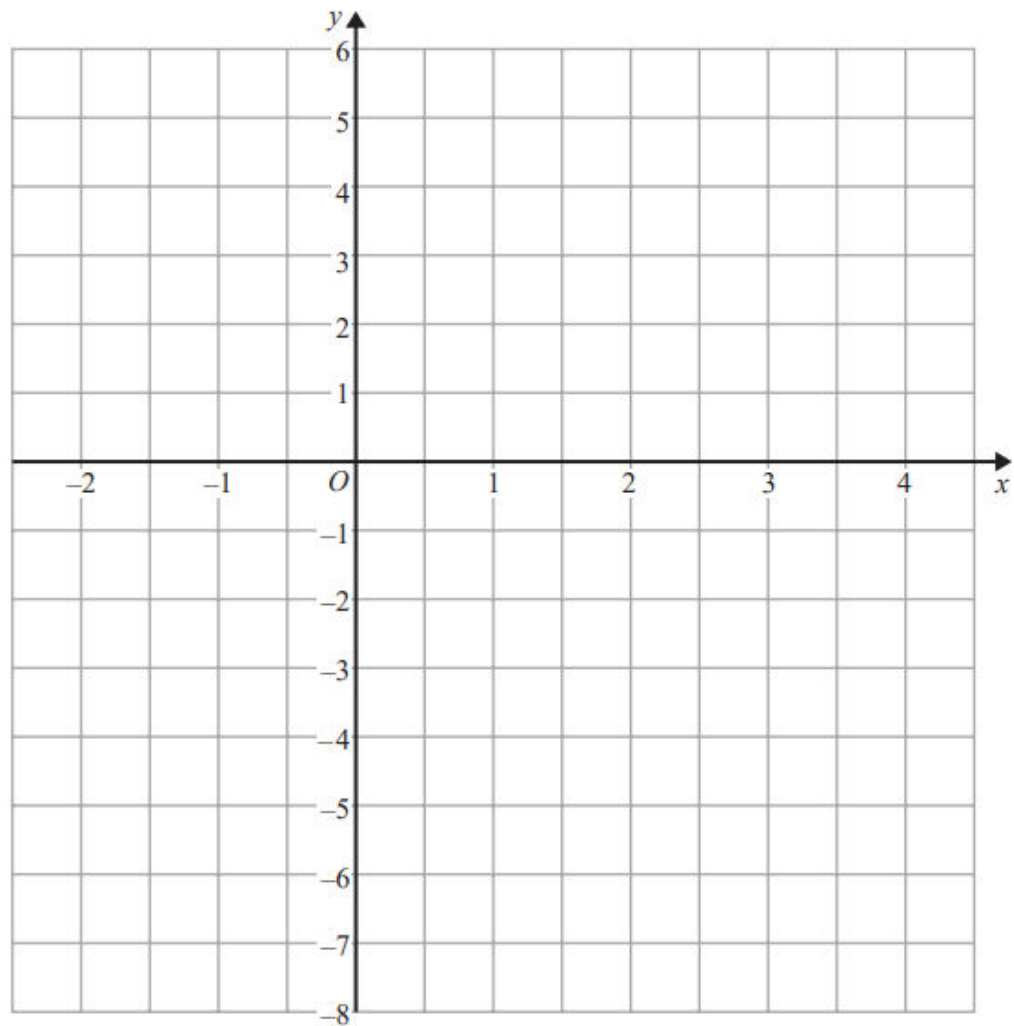
Complete the table.

Equation	Letter of graph
$y = -x^3$	
$y = x^3$	
$y = x^2$	
$y = \frac{1}{x}$	

(Total for Question 22 is 2 marks)

2.

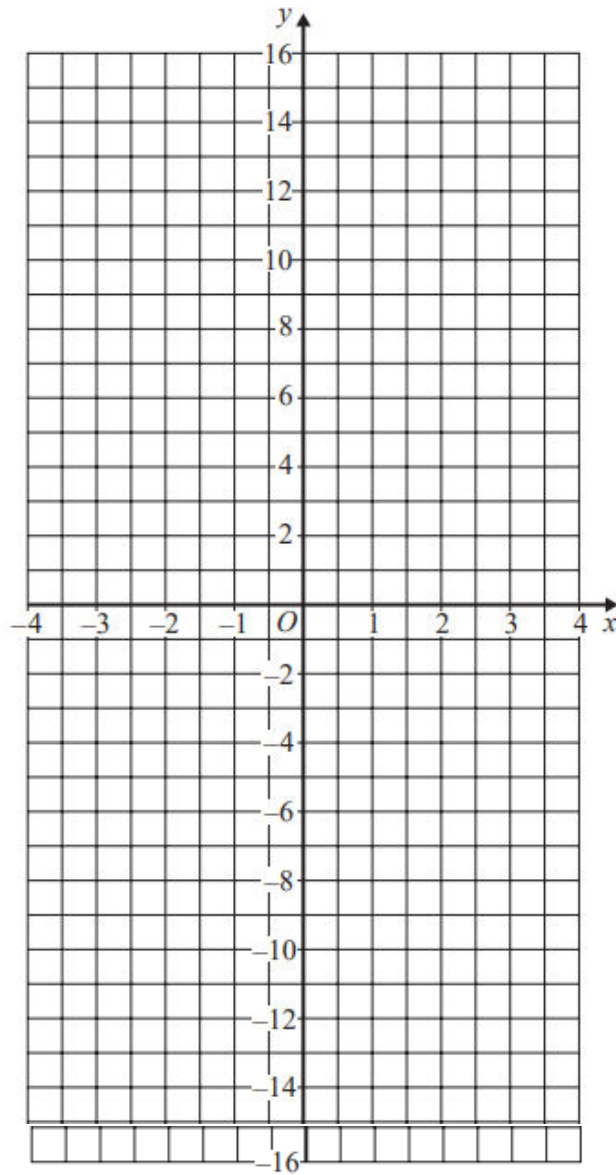
21 On the grid below, draw the graph of $y = 2x - 3$ for values of x from -2 to 4



(Total for Question 21 is 3 marks)

3.

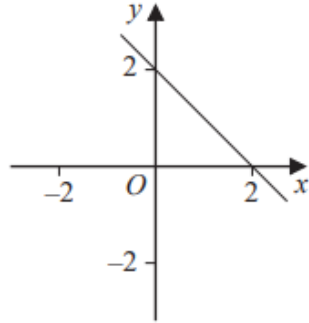
25 On the grid below, draw the graph of $y = 1 - 4x$ for values of x from -3 to 3



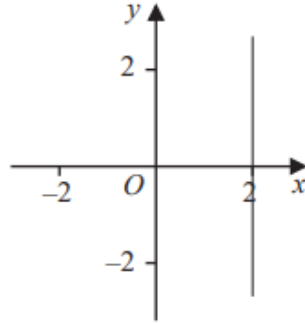
(Total for Question 25 is 3 marks)

4.

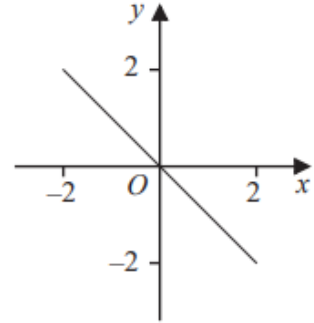
13 Here are six straight line graphs.



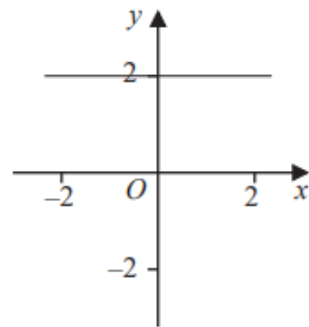
Graph A



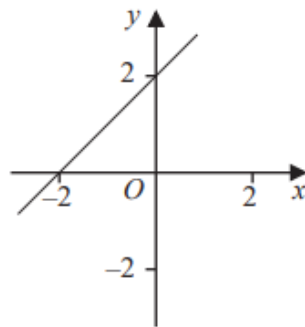
Graph B



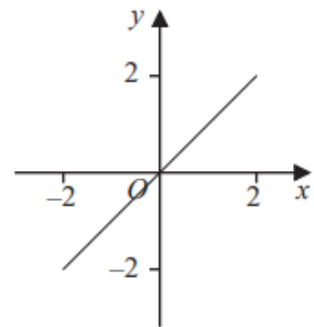
Graph C



Graph D



Graph E



Graph F

Match each equation in the table to the correct graph.

Write the letter of the graph in the table.

Equation	Graph
$y = 2$	
$y = x$	
$x + y = 2$	

(Total for Question 13 is 2 marks)

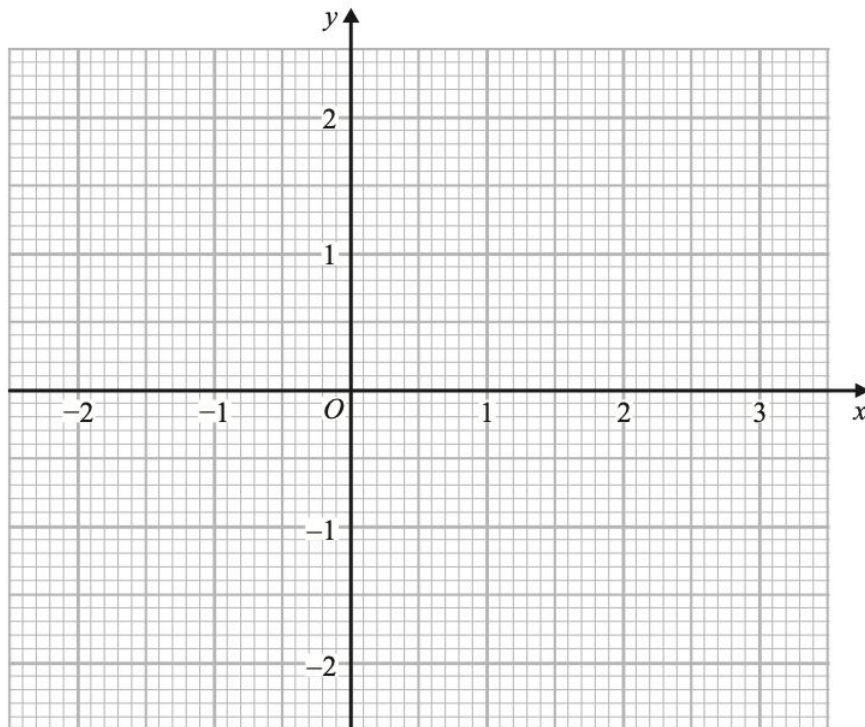
5.

13 (a) Complete the table of values for $y = \frac{1}{2}x - 1$

x	-2	-1	0	1	2	3
y	-2				0	

(2)

(b) On the grid, draw the graph of $y = \frac{1}{2}x - 1$ for values of x from -2 to 3



(2)

(c) Use your graph to find the value of x when $y = 0.3$

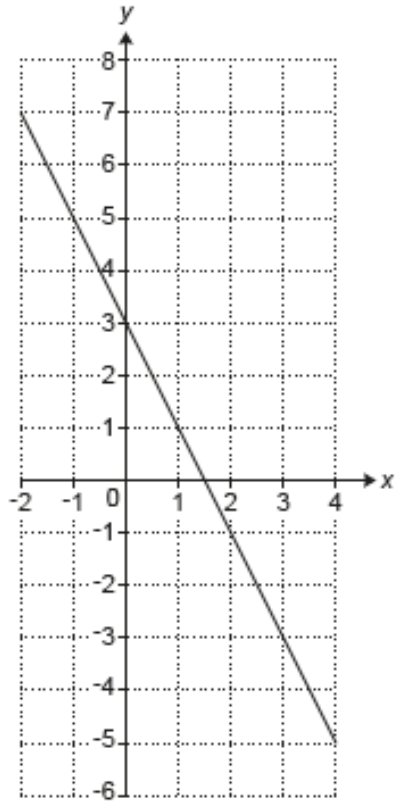
$x = \dots\dots\dots$

(1)

(Total for Question 13 is 5 marks)

6.

22 This graph shows part of a straight line.



(a) Write down the y -intercept.

(a) [1]

(b) Show that the gradient of the line is -2 .

[1]

(c) Write down the equation of the line.

(c) [1]

(d) The line continues to the right.

Will this line pass through the point (50, -103)?
Show how you decide.

..... because

..... [2]

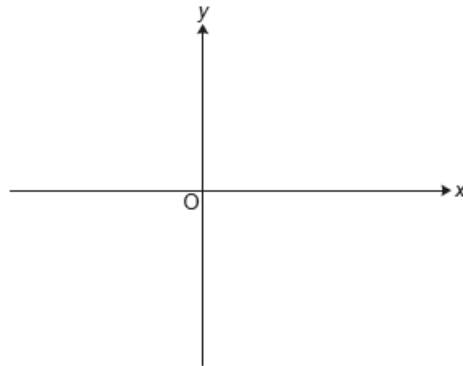
OCR Thursday 05 November 2020- Morning (Non-Calculator) Foundation Tier

7. 14 (a) (i) Sketch the graph of $x = 3$.
Show clearly the value of any intercepts.



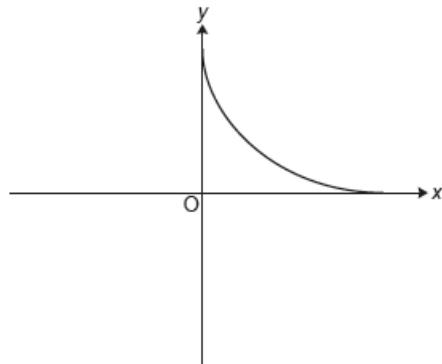
[2]

- (ii) Sketch the graph of $y = x^2 + 1$.
Show clearly the value of any intercepts.



[2]

- (b) Toby has sketched the graph of $y = \frac{1}{x}$ below.



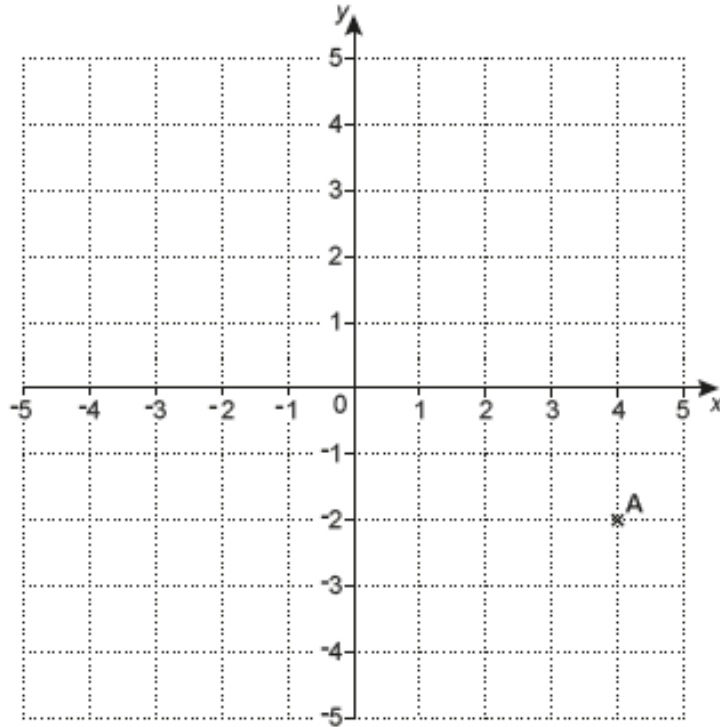
Make two comments about the accuracy of his sketch.

- 1
- 2

[2]

8.

7 Point A is plotted at (4, -2) on this one-centimetre square grid.



Point A is a corner of a square with area 36 cm^2 .
The other corners of the square have integer coordinates and lie on the grid.

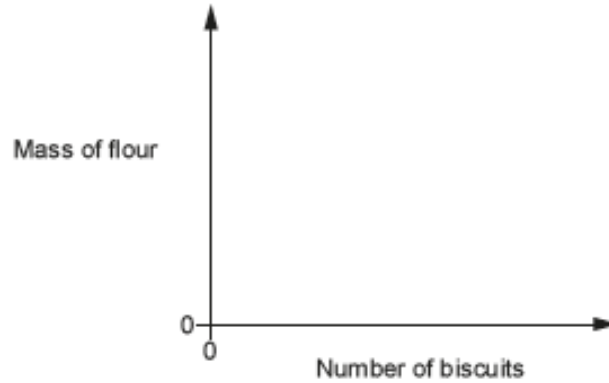
Find the coordinates for the corner of the square that is diagonally opposite point A.
You may use the grid above to help you.

(.....,) [3]

9.

- 13 (a) The mass of flour used in a recipe doubles as the number of biscuits made doubles.

On the axes below, sketch a graph to show this relationship.



[2]

- (b) Here are some of the ingredients for a recipe to make 10 biscuits.

To make 10 biscuits:	
120g	butter
100g	sugar

Jane followed the recipe and used 432 g of butter.
All of the sugar used came from a new 2 kg bag.

- (i) Find the number of biscuits she made.

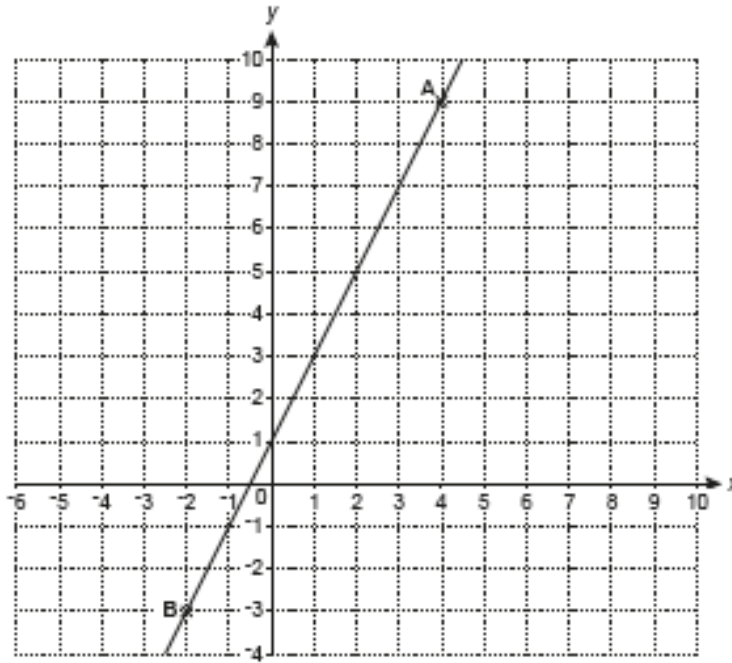
(b)(i) [3]

- (ii) Find the mass of the sugar, in grams, that Jane has left in the bag.

(ii) g [3]

10.

3 Line AB is shown on this coordinate grid.



(a) Write down the coordinates of

(i) point A,

(a)(i) (.....,) [1]

(ii) point B.

(ii) (.....,) [1]

(b) Plot point C on the grid at (7, -2).

[1]

(c) The equation of line AB is $y = 2x + 1$.
A line parallel to AB goes through the point (0, 4).

Write down the equation of the parallel line.

(c) [2]

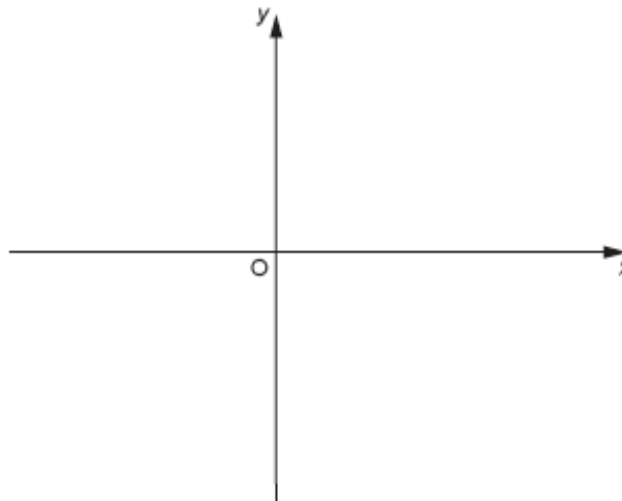
11.

13 (a) (i) Sketch the graph of $y = 2$.



[2]

(ii) Sketch the graph of $y = x + 1$.



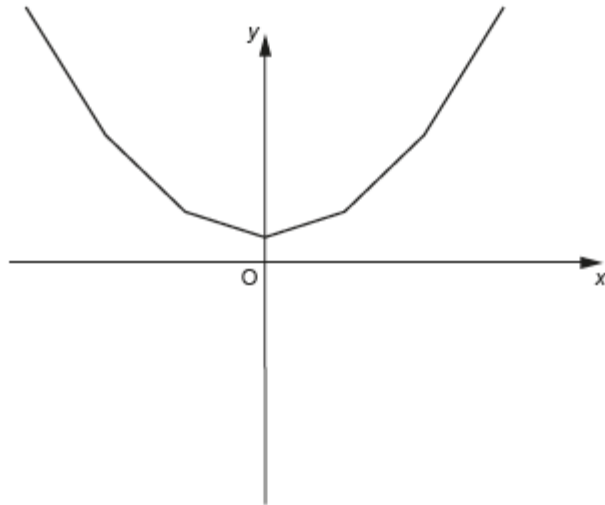
[2]

(iii) Ceri says that the graphs of $y = 2$ and $y = x + 1$ cross at the point $(2, 3)$.

Explain the error in her answer.

.....
..... [1]

(b) Oliver has sketched the graph of $y = x^2$ below.



Make two comments about the accuracy of his sketch.

1

.....

2

.....

[2]

OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier

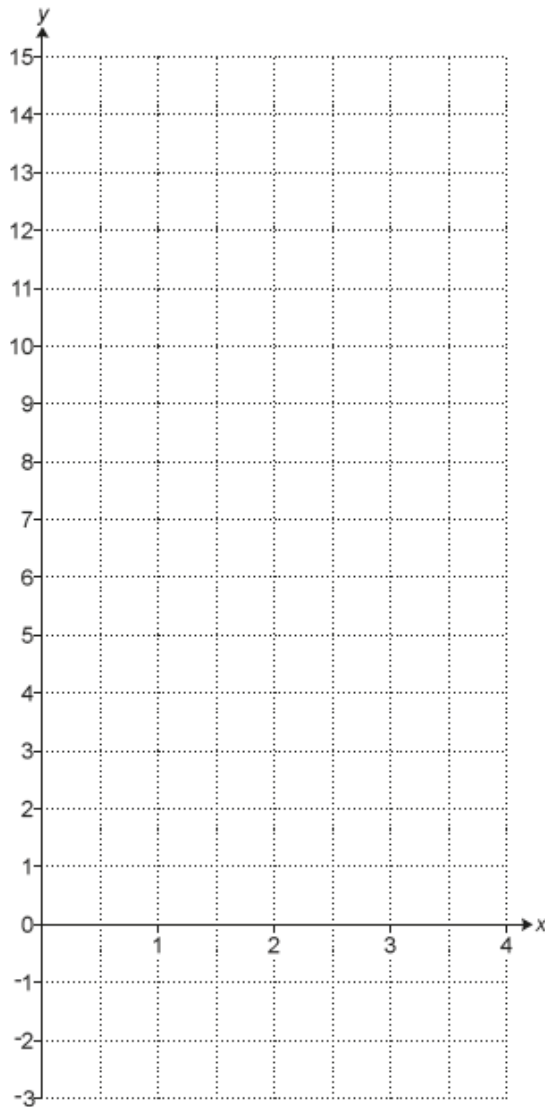
12.

17 (a) Complete this table for $y = 4x - 2$.

x	0	1	2	3	4
y	-2	2	6		14

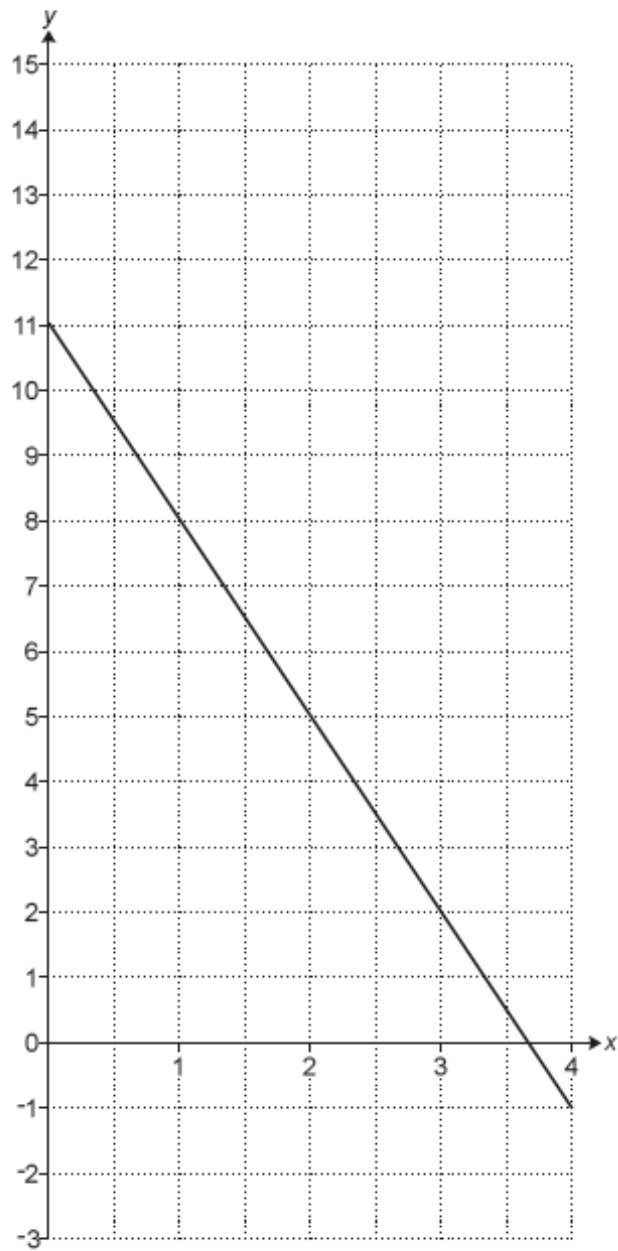
[1]

(b) On the grid below, draw the graph of $y = 4x - 2$ for values of x from 0 to 4.



[2]

(c) The diagram below shows part of another straight line.

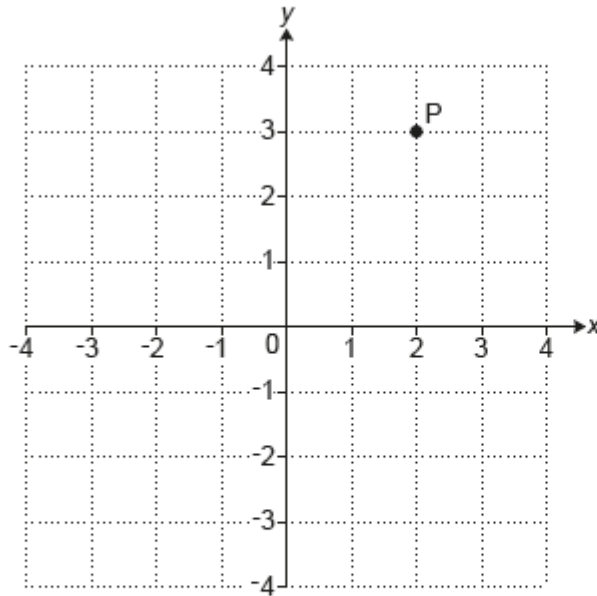


Find the equation of this straight line.

(c) [3]

13.

7 Point P is shown on this grid.



(a) Write down the coordinates of point P.

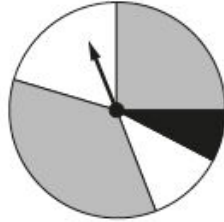
(a) (..... ,) [1]

(b) Draw the line $x = -2$ on the grid.

[1]

14.

- 19 (a) This spinner has two grey sections, two white sections and one black section.



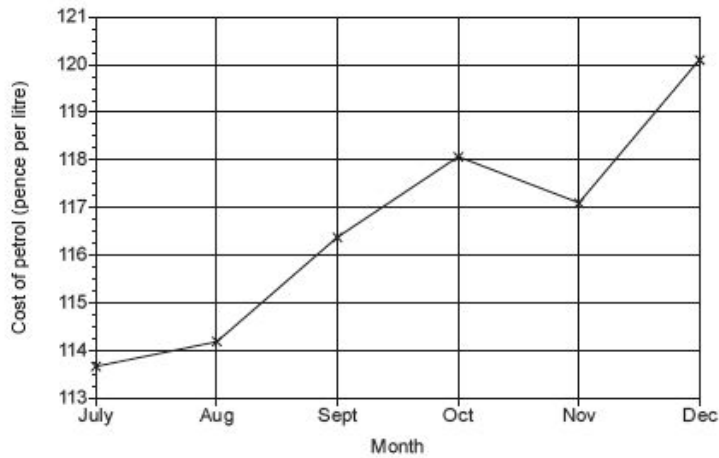
Vlad says

The probability of the spinner landing on black is $\frac{1}{5}$.

Explain why Vlad is not correct.

.....
.....
..... [1]

- (b) The graph shows the cost of a litre of petrol for the last six months of 2017.

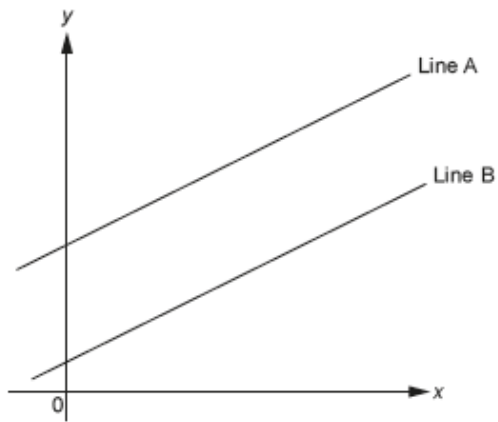


Explain why this graph is misleading.

.....
.....
..... [1]

15.

24 The graph shows two parallel lines, Line A and Line B.



Not to scale

Line A has equation $y = 6x + 7$.
Line B passes through the point $(4, 26)$.

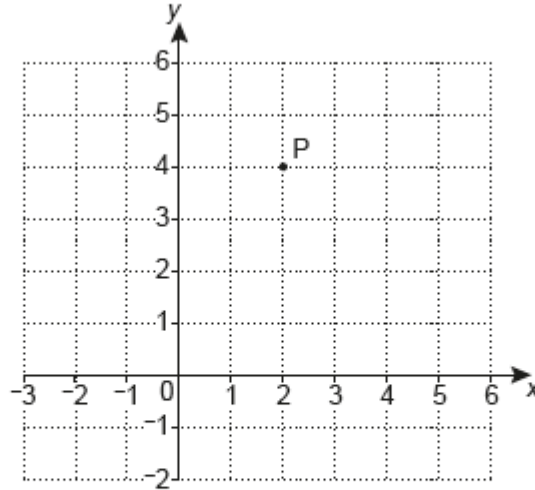
Find the equation of Line B.

..... [4]

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

16.

11 Point P is shown on this grid.



(a) Write down the coordinates of point P.

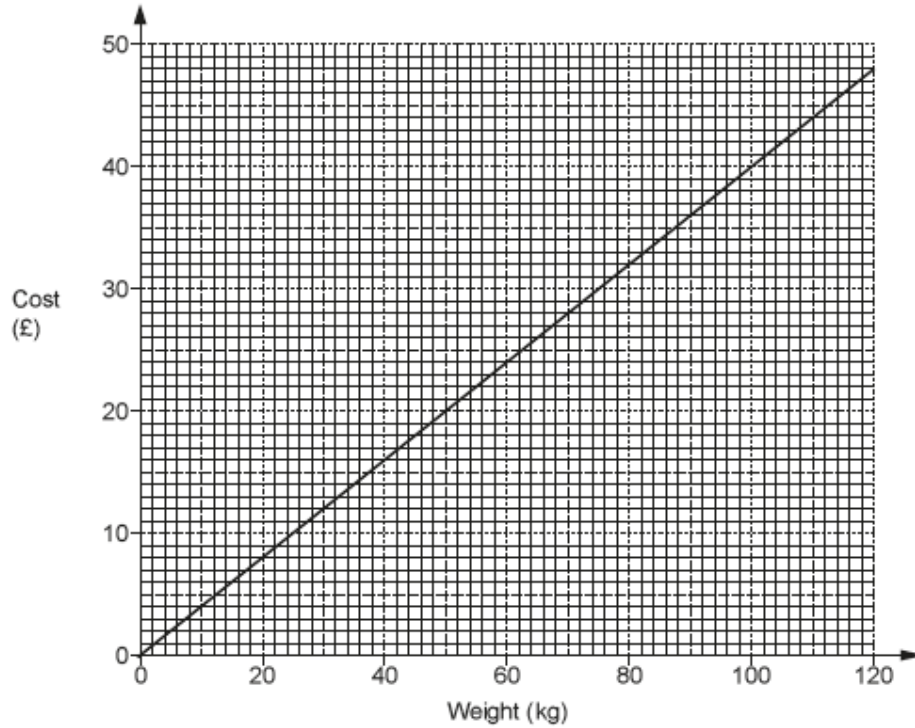
(a) (..... ,) [1]

(b) Plot point Q at (-1, 2).

[1]

17.

5 This graph shows the cost of buying potatoes from a farm.



(a) (i) How much does it cost to buy 70 kg of potatoes?

(a)(i) £ [1]

(ii) What weight of potatoes can be bought for £38?

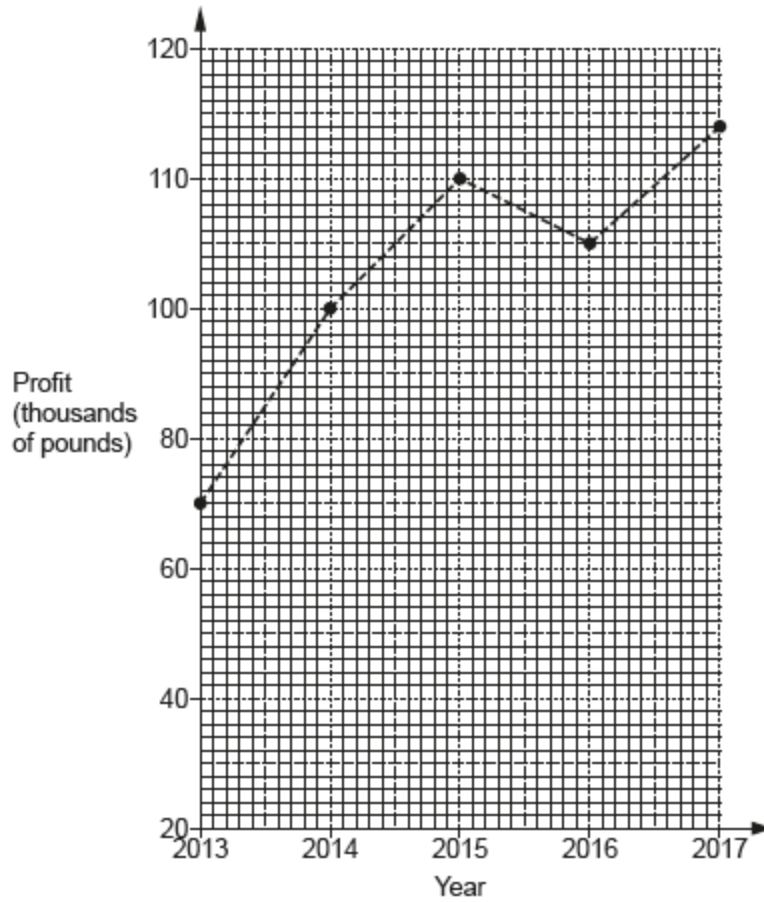
(ii) kg [1]

(iii) The cost per kilogram of potatoes is the same for any weight of potatoes.

How much will it cost to buy 180 kg of potatoes from the farm?

(iii) £ [3]

(b) This graph shows the annual profits, in thousands of pounds, of the farm between 2013 and 2017.



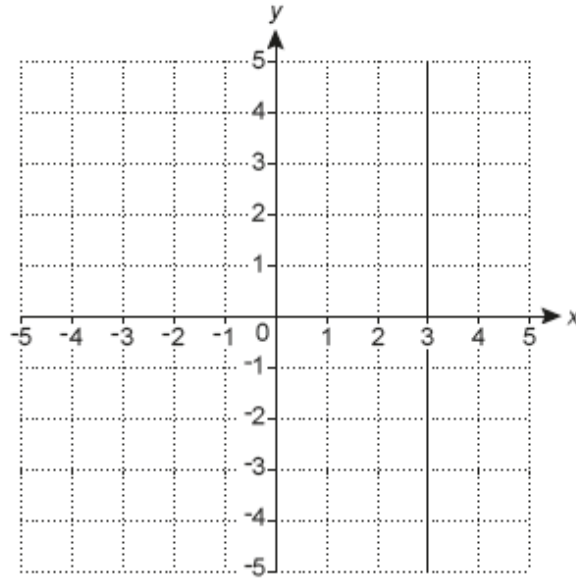
Describe one misleading feature of the graph.

.....
..... [1]

18.

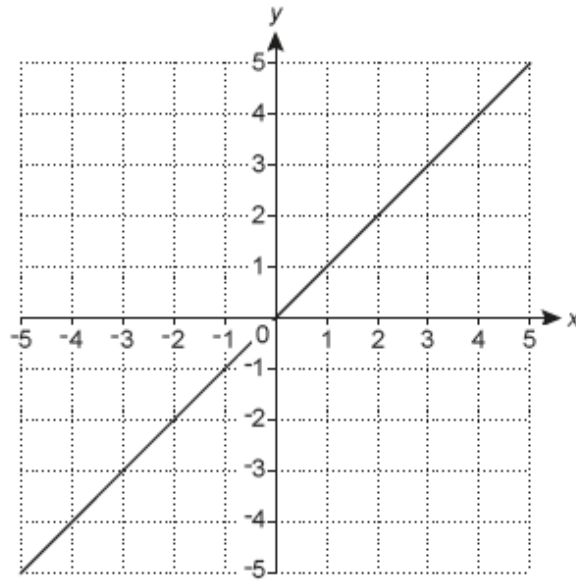
10 (a) Write down the equation of each of these lines.

(i)



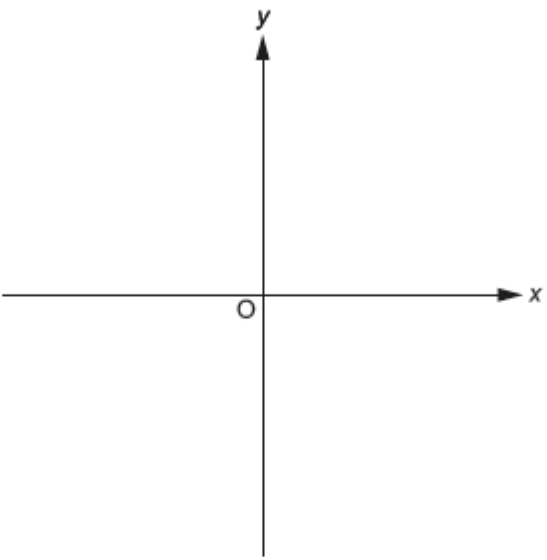
(a)(i) [1]

(ii)



(ii) [1]

(b) Sketch the graph of $y = x^2$.



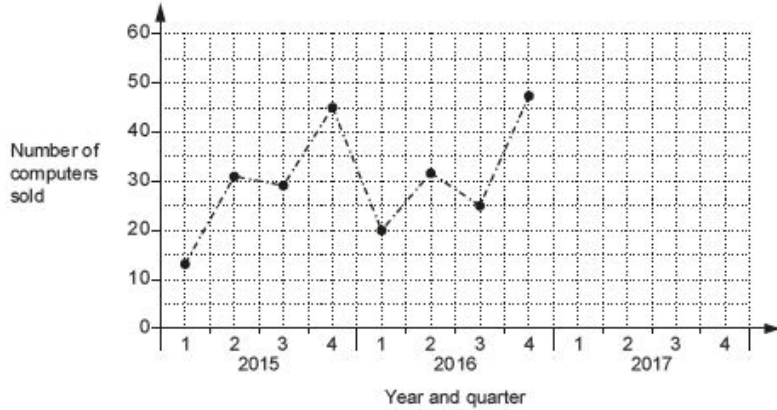
[1]

19.

20 The table shows the number of computers sold in Tom's shop each quarter from 2015 to 2017.

	2015				2016				2017			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4
Number of computers sold	13	31	29	45	20	32	25	47	27	40	30	58

(a) Complete this graph using the information for 2017.



[2]

(b) Tom adds the three results for quarter 1 and he adds the three results for quarter 4.
Tom says

The ratio of the total number of computers sold in quarter 1 compared to quarter 4 is 2 : 5.

Is he correct?
Show your reasoning.

..... [2]

(c) Make two comments about Tom's sales over the period 2015 to 2017.

Comment 1

.....

Comment 2

..... [2]

(d) Tom predicts that he will sell more than 60 computers in the 4th quarter of 2018.

What assumption has he made?

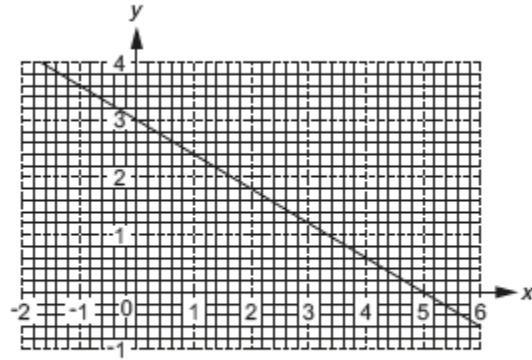
.....

..... [1]

OCR Monday 12 November 2018 – Morning (Calculator) Foundation Tier

20.

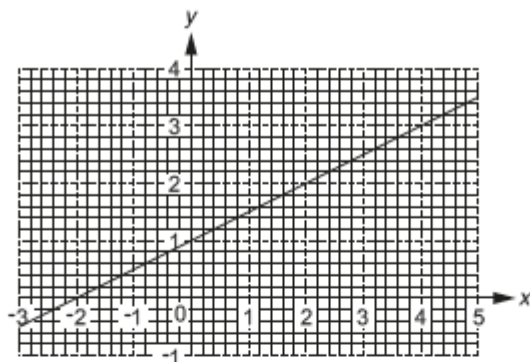
19 (a) This graph shows part of a straight line.



Write down the y -intercept.

(a) [1]

(b) This graph shows part of another straight line.



(i) Find the gradient of this line.

(b)(i) [2]

(ii) This line is continued to the right.

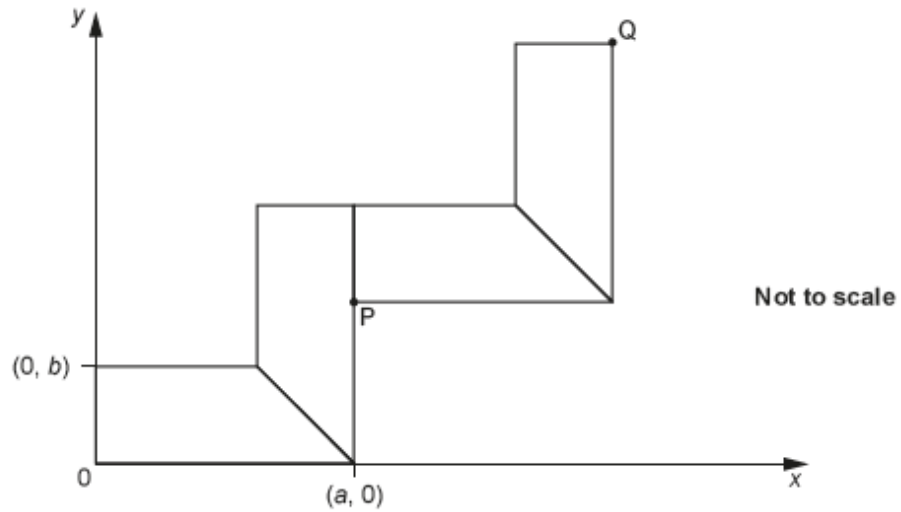
Will the line pass through the point (200, 102)?
Show how you decide.

..... [3]

OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

21.

16 Four identical trapeziums are placed on a coordinate grid as shown.



(a) Write down algebraic expressions for the coordinates of point P.

(a) (..... ,) [2]

(b) The coordinates of point Q are (16, 13).

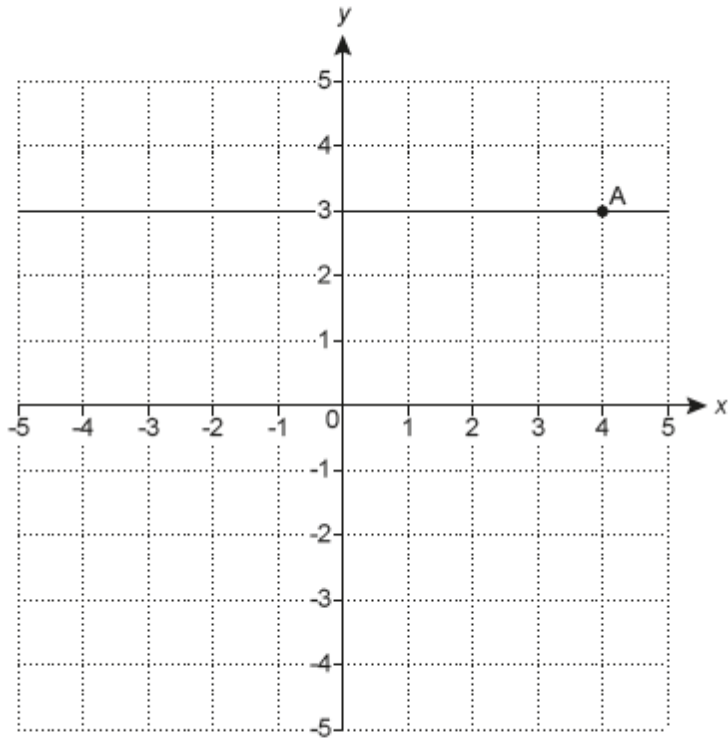
Work out the value of a and the value of b .

(b) $a =$

$b =$ [4]

22.

4 This grid shows a horizontal line going through the point A.



(a) (i) Write down the coordinates of point A.

(a)(i) (.....,) [1]

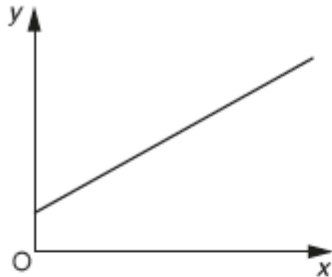
(ii) Plot the point $(-2, 3)$. [1]

(b) Write down the equation of the horizontal line going through point A.

(b) [1]

23.

21 (a) A graph is drawn below.



Explain how you know that y is not directly proportional to x .

.....

.....

..... [1]

(b) q is directly proportional to r .
 q is 68 when r is 20.

Work out q when r is 25.

(b) [2]

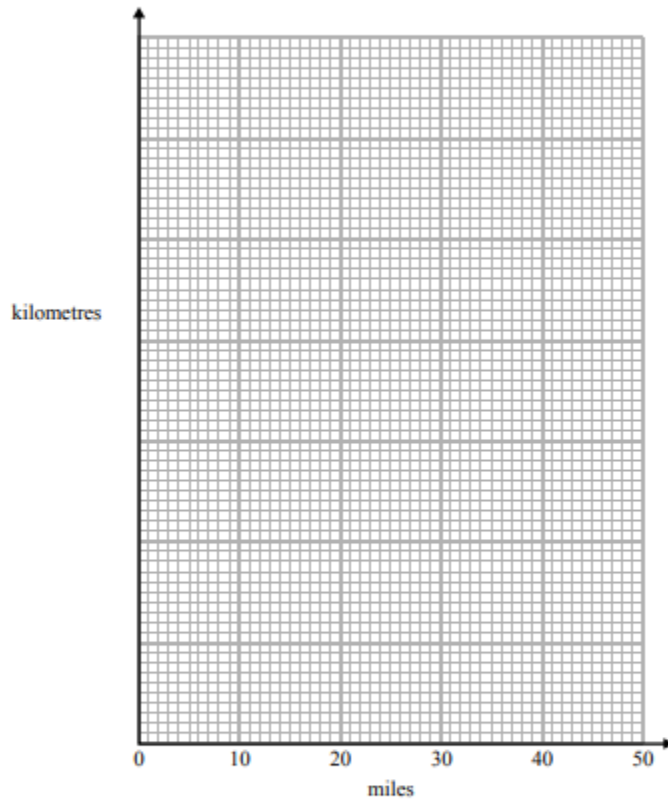
Pearson Edexcel –Sample Papers - Paper 2 (Calculator) Foundation Tier

24.

12 You can use the information in the table to convert between kilometres and miles.

miles	0	5	20	40
kilometres	0	8	32	64

(a) Use this information to draw a conversion graph.



(b) Which is further, 20 kilometres or 15 miles?
You must show how you got your answer.

(3)

(2)

(Total for Question 12 is 5 marks)

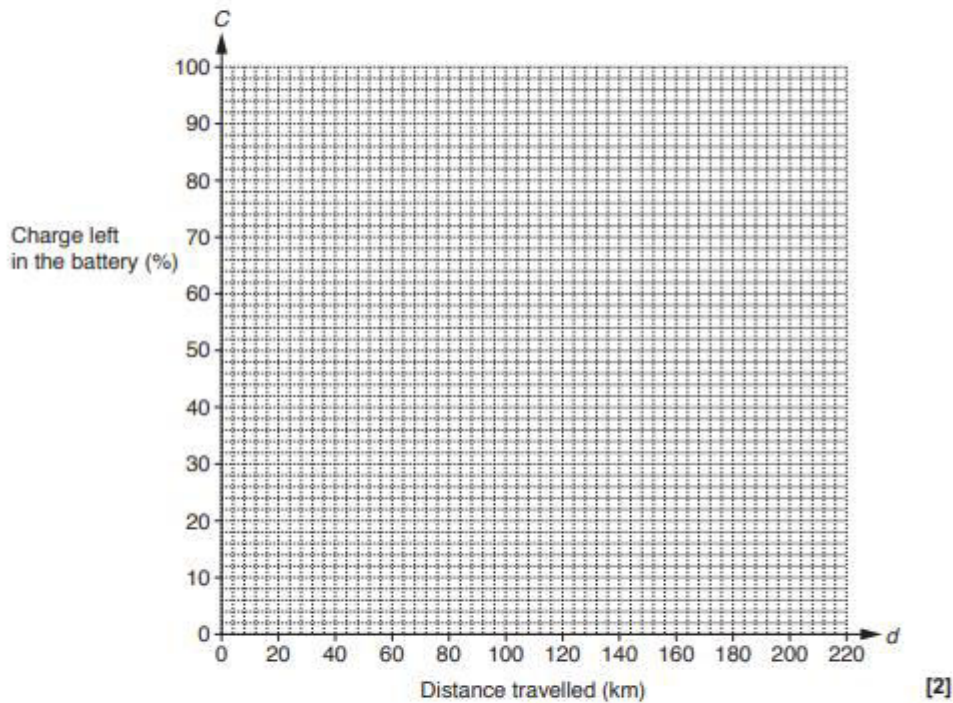
25.

- 11 A company tests a new battery for an electric car.
The distance the car travels, d km, and the charge left in the battery, $C\%$, are measured.

Some measurements are shown in the table.

Distance travelled, d km.	0	50	100	150
Charge left in the battery, $C\%$.	100	75	50	25

- (a) Plot these values on the grid and use them to draw a straight line.



- (b) (i) Use your line to estimate the greatest distance the car will travel.

(b)(i) km [1]

- (ii) What assumption is made when estimating the greatest distance?

.....
 [1]

(c) For your line in part (a), find

(i) the gradient,

(c)(i) [1]

(ii) the C-axis intercept.

(ii) [1]

(d) Use your answers to part (c) to write down the equation of your graph.

Give your equation in the form $C = ad + b$.

(d) $C =$ [1]

(e) (i) Use your equation to find the value of C when $d = 210$.

(e)(i) [2]

(ii) Comment on your answer.

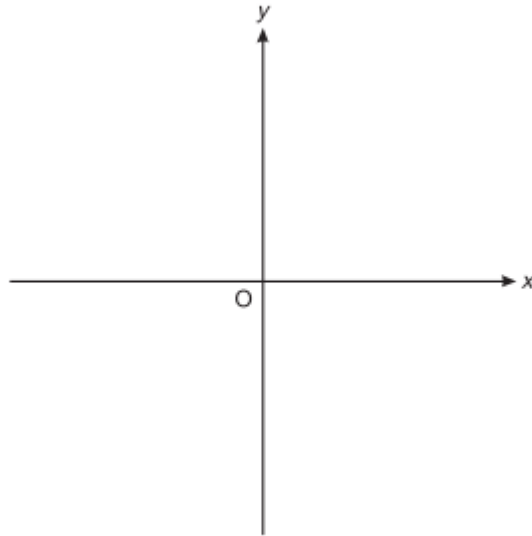
.....

..... [1]

OCR Sample Question Paper 1 – Morning/Afternoon (Calculator) Foundation Tier

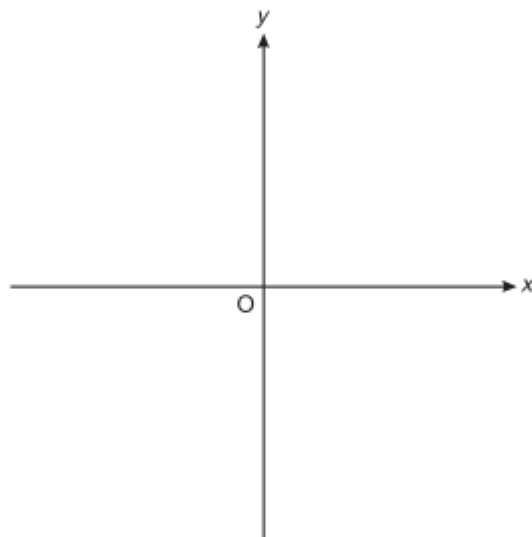
26.

- 13 (a) (i) Sketch a graph on the axes below that shows that y is directly proportional to x .



[2]

- (ii) Sketch a graph on the axes below that shows $y = x^3$.



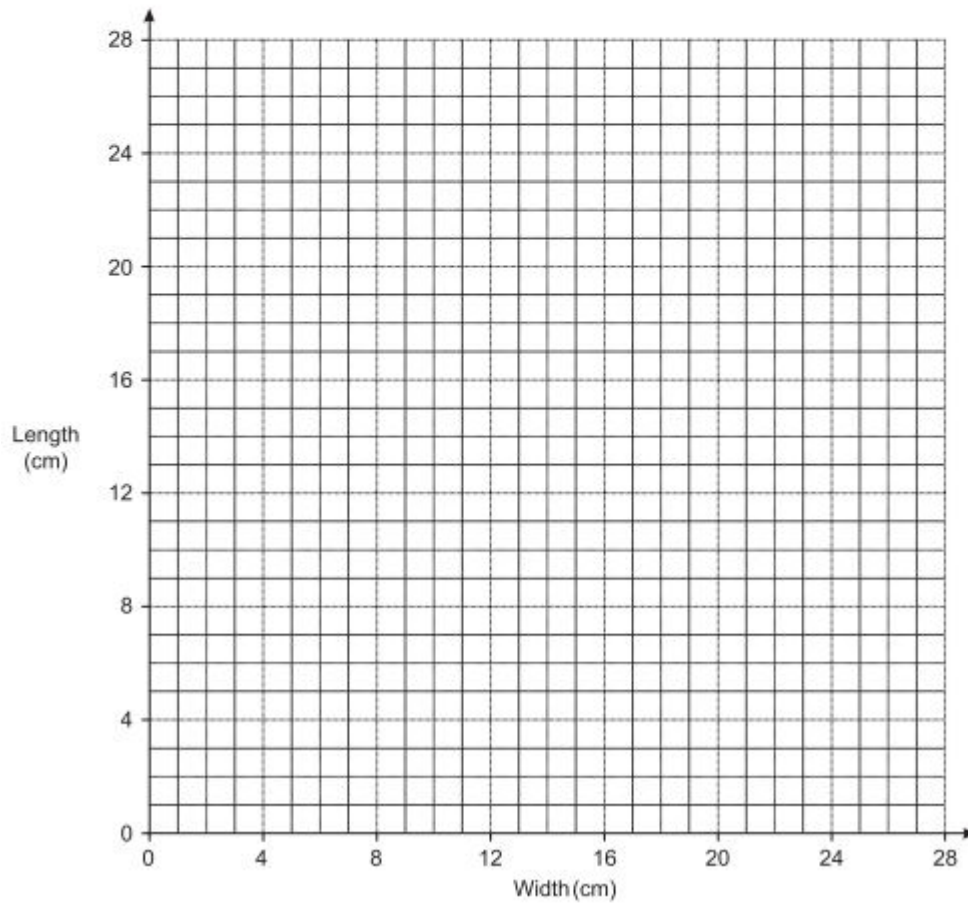
[2]

- (b) It is possible to draw many rectangles that have area 24 cm^2 .
Here are two of them.



Not to scale

- (i) Plot the dimensions of these two rectangles on the grid below. [1]
- (ii) Complete the graph to show the relationship between length and width for rectangles with area 24 cm^2 . [3]



AQA Monday 8 June 2020 – Morning (Calculator) Foundation Tier

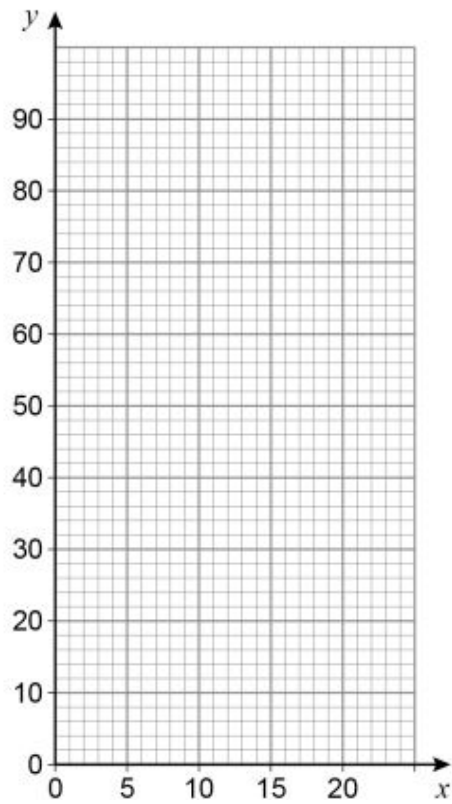
27.

16 Here is a formula.

$$y = 3.6x$$

16 (a) Draw the graph of $y = 3.6x$ for values of x from 0 to 20

[2 marks]



In the formula $y = 3.6x$

y is speed in kilometres per hour (km/h)

x is speed in metres per second (m/s)

16 (b) Convert 50 km/h to m/s

Give your answer to the nearest whole number.

[1 mark]

Answer _____ m/s

16 (c) Convert 30 m/s to miles per hour.

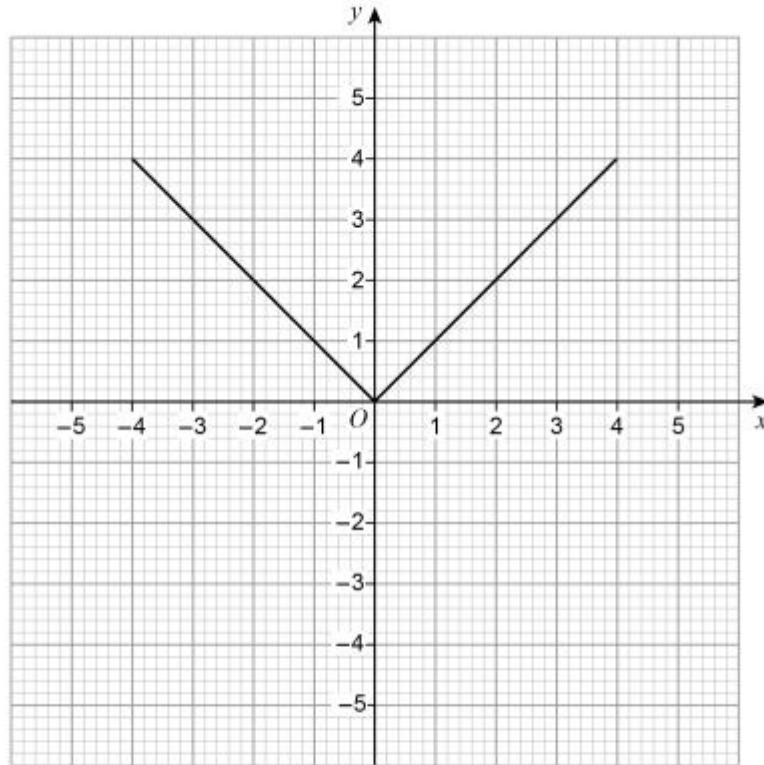
Use 1 mile per hour = 1.61 km/h

[3 marks]

Answer _____ miles per hour

28.

- 14 Lee wants to draw the graph of $y = x$ for values of x from -5 to 5
Here is his graph.



Make two **different** criticisms of his graph.

[2 marks]

Criticism 1 _____

Criticism 2 _____

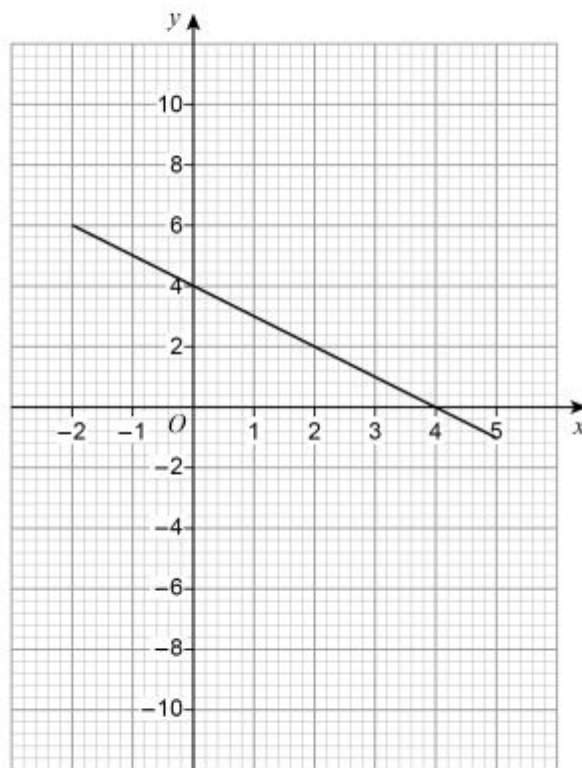
AQA Thursday 7 June 2018 – Morning (Calculator) Foundation Tier

29.

15 The graph of $y = 4 - x$ for values of x from -2 to 5 is shown on the grid.

15 (a) On the grid, draw the graph of $y = 2x - 5$ for values of x from -2 to 5

[3 marks]



15 (b) Use your graph to solve $2x - 5 = 4 - x$

[1 mark]

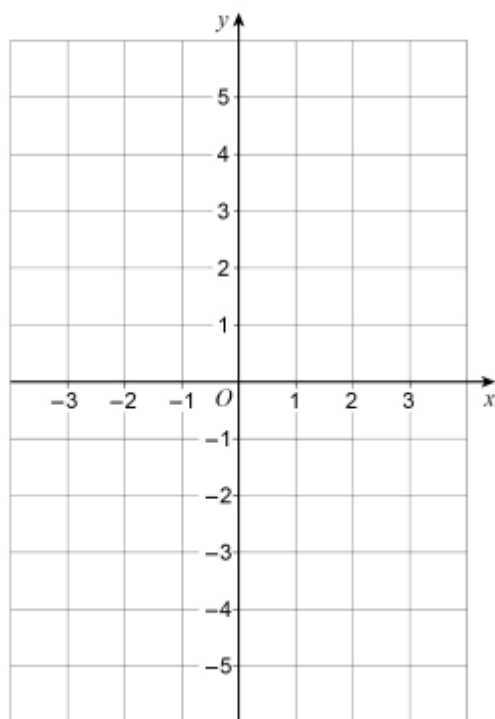
$x =$ _____

AQA Thursday 2 November 2017 – Morning (Non-Calculator) Foundation Tier

30.

14 On the grid, draw the graph of $x + y = 2$ for values of x from -3 to 3

[2 marks]



AQA Thursday 25 May 2017– Morning (Non-Calculator) Foundation Tier

31.

16 P and Q are points on the line $3x + 2y = 6$

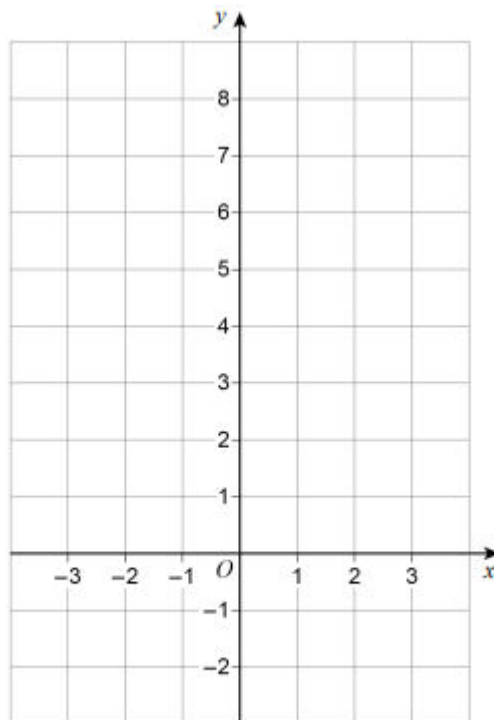
16 (a) Complete the coordinates of P and Q .

[2 marks]

$P (0, \underline{\hspace{1cm}})$ $Q (\underline{\hspace{1cm}}, 0)$

16 (b) Draw the line $3x + 2y = 6$ for values of x from -3 to 3

[2 marks]



AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier

32.

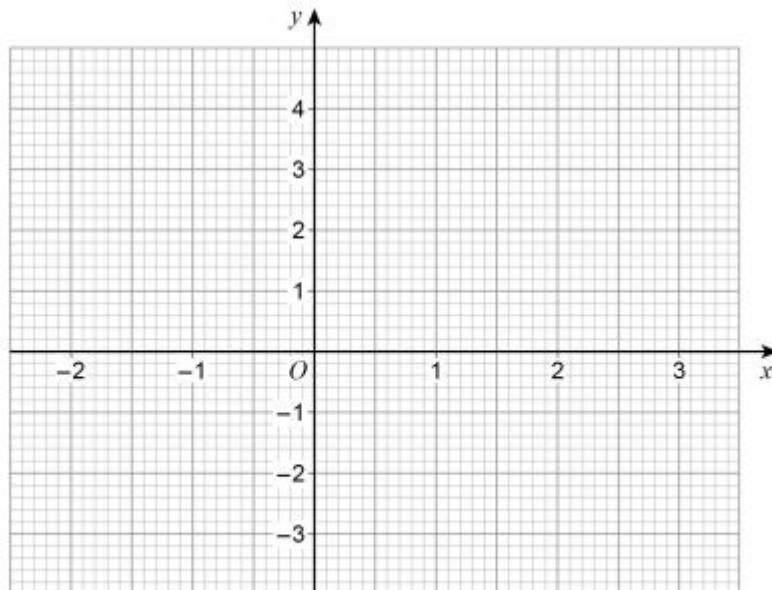
26 (a) Complete the table of values for $y = x^2 - x - 2$

[2 marks]

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

26 (b) Draw the graph of $y = x^2 - x - 2$ for values of x from -2 to 3

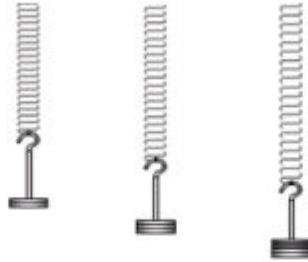
[2 marks]



AQA Sample Paper 3– Morning (Calculator) Foundation Tier

33.

10 In an experiment, different masses are hung on a spring.

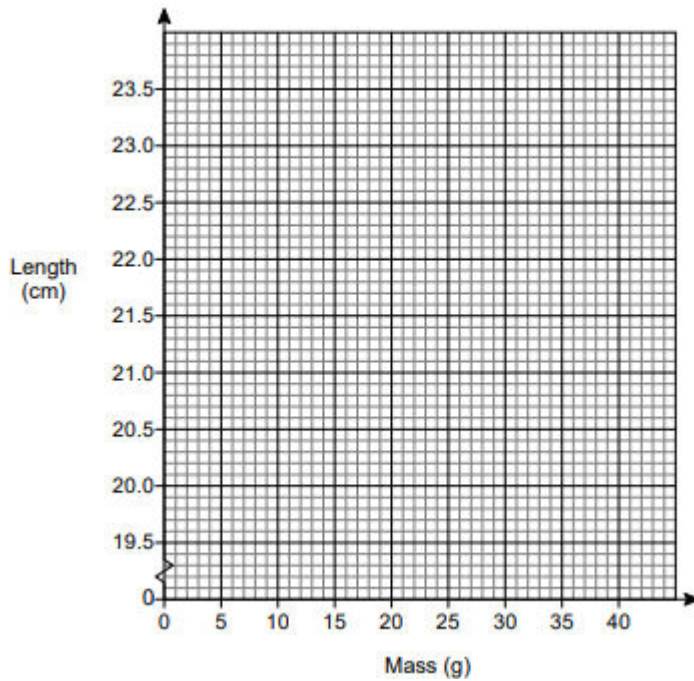


The length of the spring is measured for each mass.

Mass (g)	10	20	30	40
Length (cm)	20.8	21.6	22.4	23.2

10 (a) Draw a graph to show the length of the spring for masses from 10 g to 40 g

[2 marks]



10 (b) Estimate the length of the spring with no mass hung on it.

[1 mark]

Answer _____ cm

10 (c) How much longer is the spring with a 35 g mass than with a 15 g mass?

[2 marks]

Answer _____ cm