DRAWING GRAPHS

Pearson Edexcel – Thursday 4 June 2020 - Paper 2 (Calculator) Higher Tier
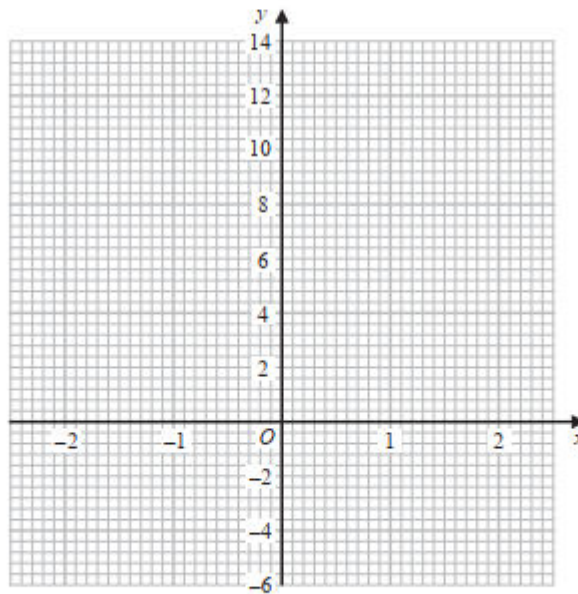
1.

4   (a) Complete the table of values for $y = 5 - x^3$

x	−2	−1	0	1	2
y		6			

(2)

(b) On the grid below, draw the graph of $y = 5 - x^3$ for values of x from −2 to 2
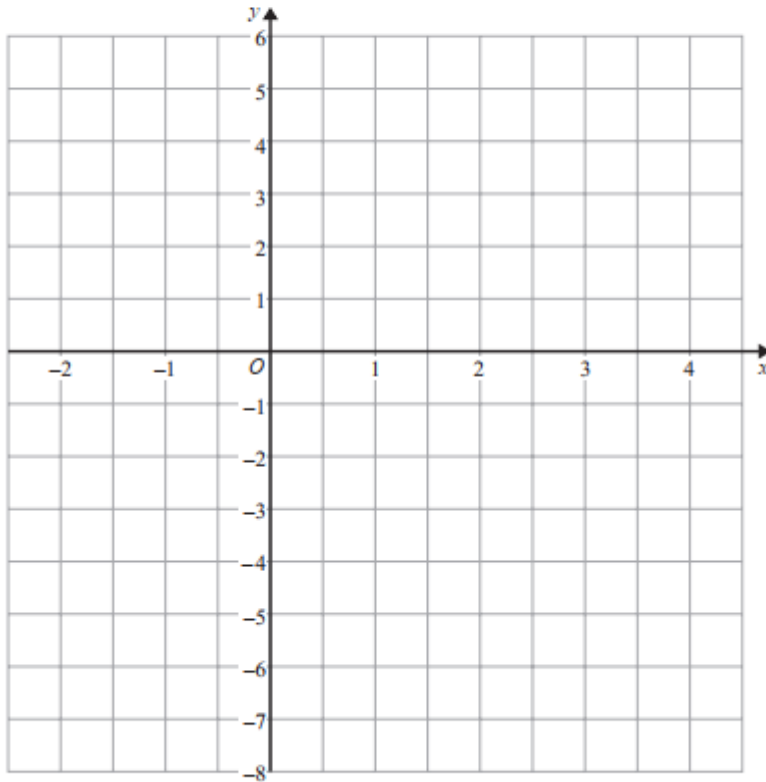

(2)

(Total for Question 4 is 4 marks)

Pearson Edexcel - Thursday 6 June 2019 - Paper 2 (Calculator) Higher Tier

2.

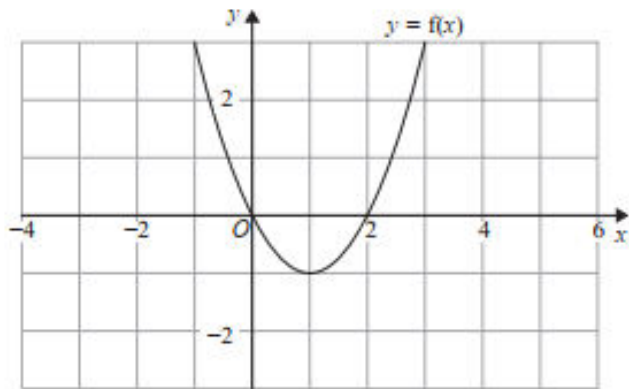**2** On the grid below, draw the graph of $y = 2x - 3$ for values of x from -2 to 4

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Higher Tier
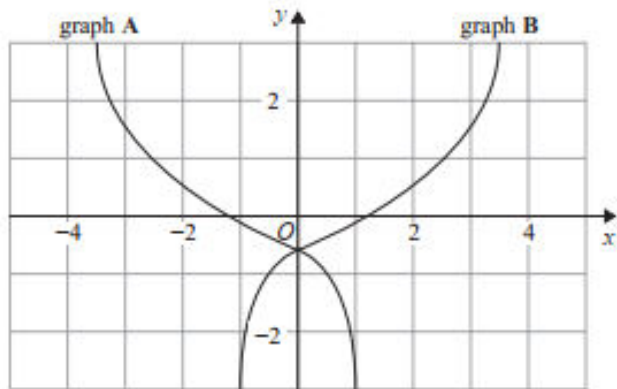
3.

18 The graph of $y = f(x)$ is shown on the grid below.

(a) On the grid above, sketch the graph of $y = f(x - 2)$

(1)

On the grid, graph **A** has been reflected to give graph **B**.

The equation of graph **A** is $y = g(x)$
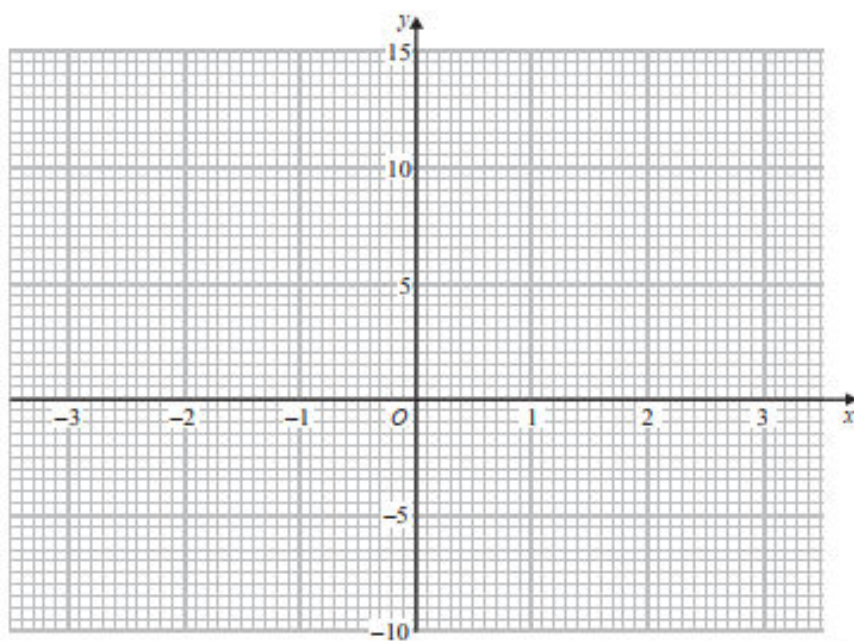
(b) Write down the equation of graph **B**.

....

(1)

(Total for Question 18 is 2 marks)

Pearson Edexcel - Monday 12 November 2018 - Paper 3 (Calculator) Higher Tier

4.

3 (a) Complete this table of values for $y = x^2 + x - 4$

x	−3	−2	−1	0	1	2	3
y		−2	−4		−2		

(2)

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

(2)

(c) Use the graph to estimate a solution to $x^2 + x - 4 = 0$

....

(1)

(Total for Question 3 is 5 marks)

Pearson Edexcel - Monday 12 November 2018 - Paper 3 (Calculator) Higher Tier

5.

11 Sketch the graph of $y = \tan x°$ for $0 \leqslant x \leqslant 360$
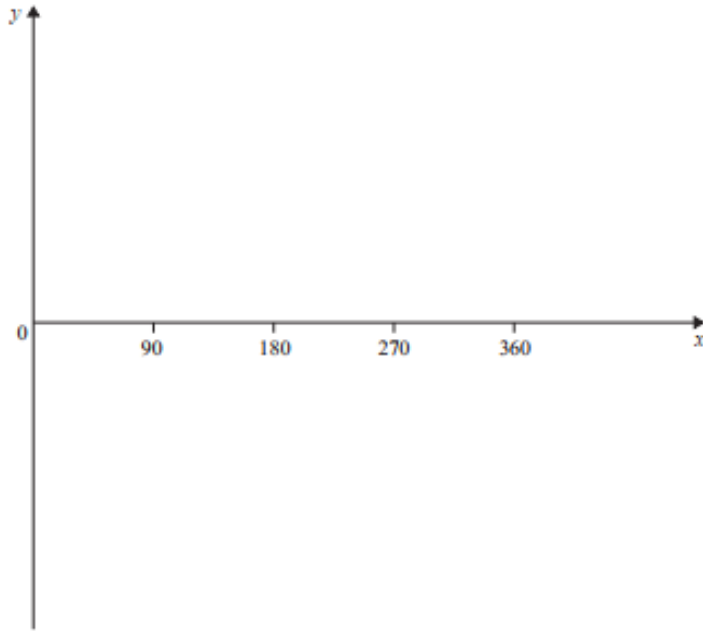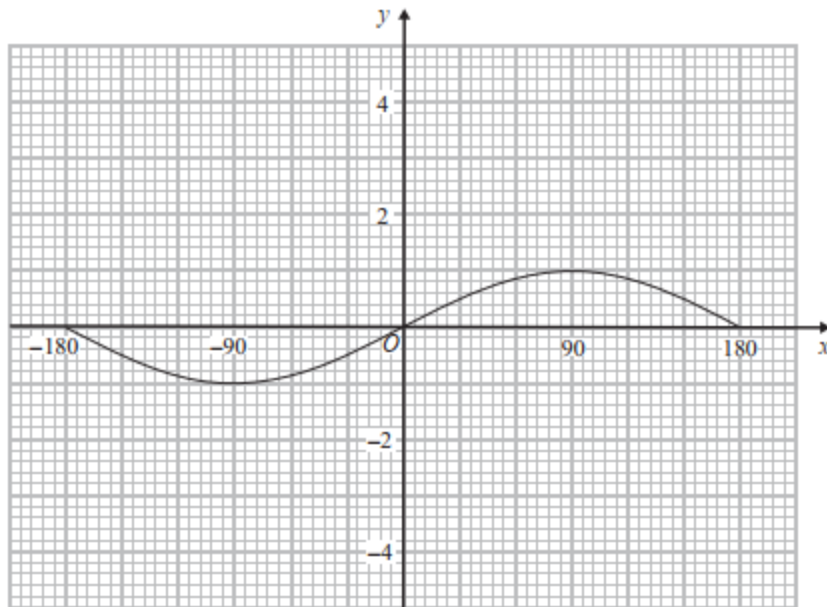

(Total for Question 11 is 2 marks)

Pearson Edexcel - Thursday 24 May 2018 - Paper 1 (Non-Calculator) Higher Tier

6.

18 Here is the graph of $y = \sin x°$ for $-180 \leqslant x \leqslant 180$

On the grid, sketch the graph of $y = \sin x° - 2$ for $-180 \leqslant x \leqslant 180$

(Total for Question 18 is 2 marks)

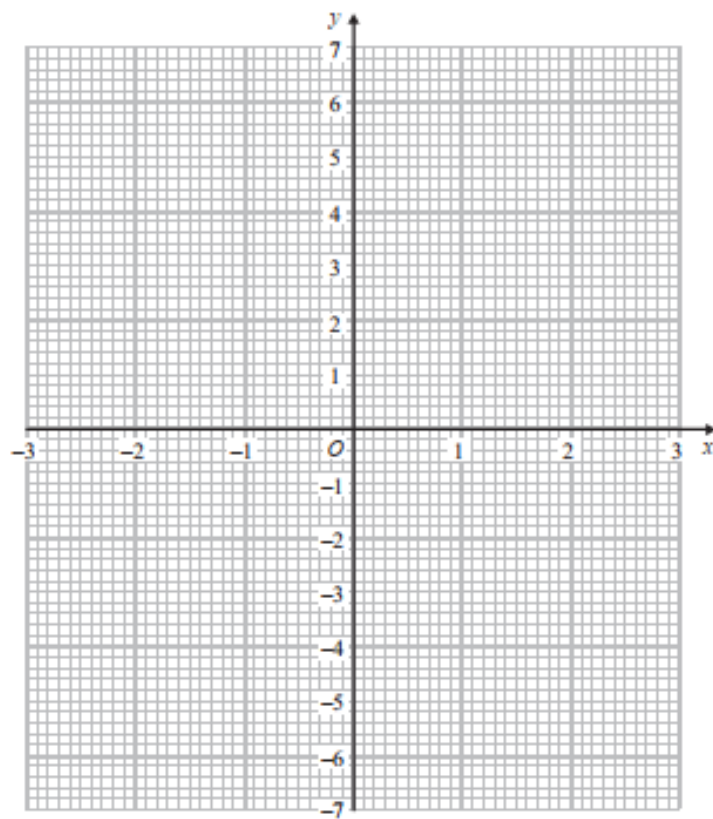**Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Higher Tier**

7.

5 (a) Complete the table of values for $y = x^2 - x - 6$

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

(2)

(b) On the grid, draw the graph of $y = x^2 - x - 6$ for values of x from -3 to 3

(2)

(c) Use your graph to find estimates of the solutions to the equation $x^2 - x - 6 = -2$

....

(2)

(Total for Question 5 is 6 marks)

Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Higher Tier

8.

16 (a) On the grid, draw the graph of $x^2 + y^2 = 12.25$
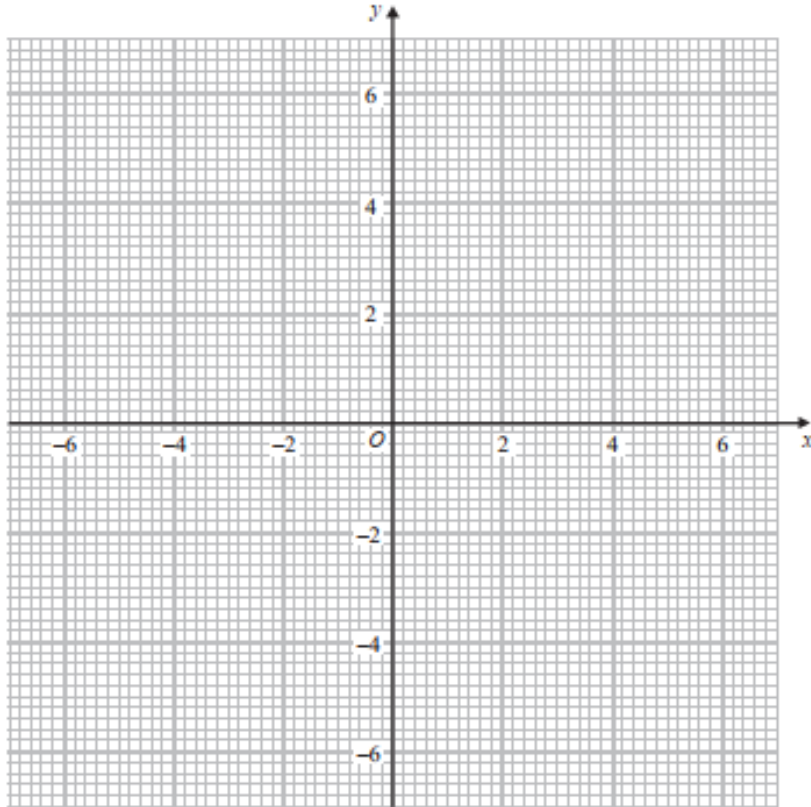
(2)

(b) Hence find estimates for the solutions of the simultaneous equations

$$x^2 + y^2 = 12.25$$
$$2x + y = 1$$

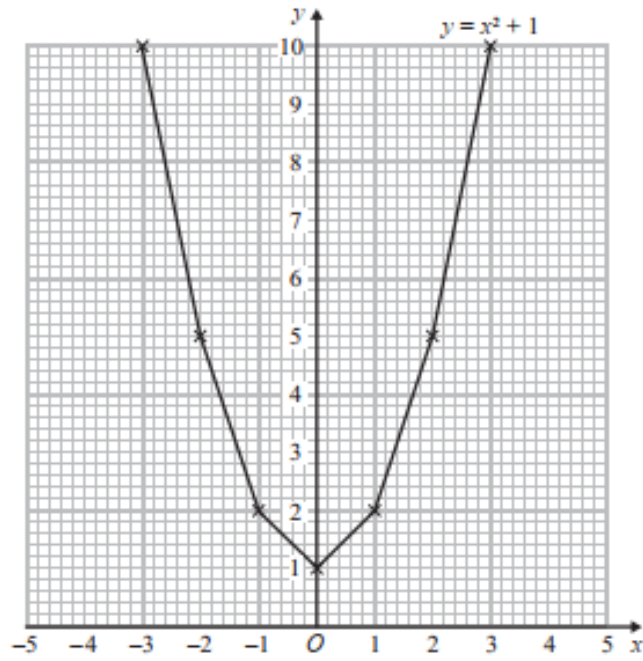...

(3)

(Total for Question 16 is 5 marks)

Pearson Edexcel - Thursday 2 November 2017 - Paper 1 (Non-Calculator) Higher Tier

9.

7 Brogan needs to draw the graph of $y = x^2 + 1$

Here is her graph.

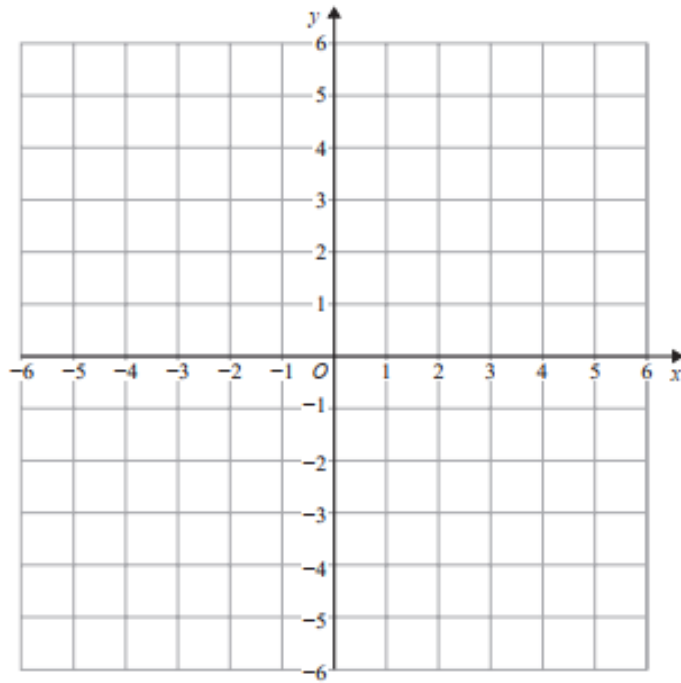Write down one thing that is wrong with Brogan's graph.

....

....

(Total for Question 7 is 1 mark)

Pearson Edexcel - Monday 6 November 2017 - Paper 2 (Calculator) Higher Tier

10.

14 On the grid, shade the region that satisfies all these inequalities.

$$y > 1 \qquad x + y < 5 \qquad y > 2x$$
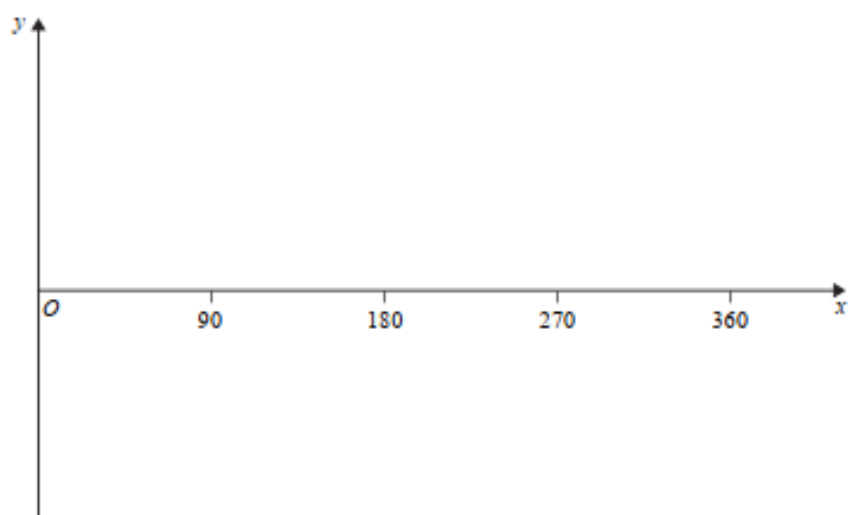
Label the region **R**.

(Total for Question 14 is 3 marks)

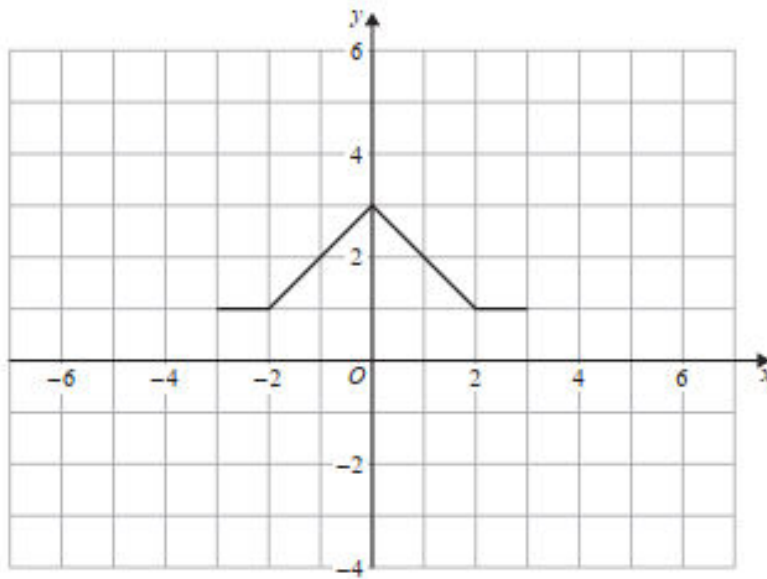**Pearson Edexcel - Specimen Papers Set 2 - Paper 2 (Calculator) Higher Tier**

11.

19 (a) Sketch the graph of $y = \cos x°$ for $0 \leqslant x \leqslant 360$
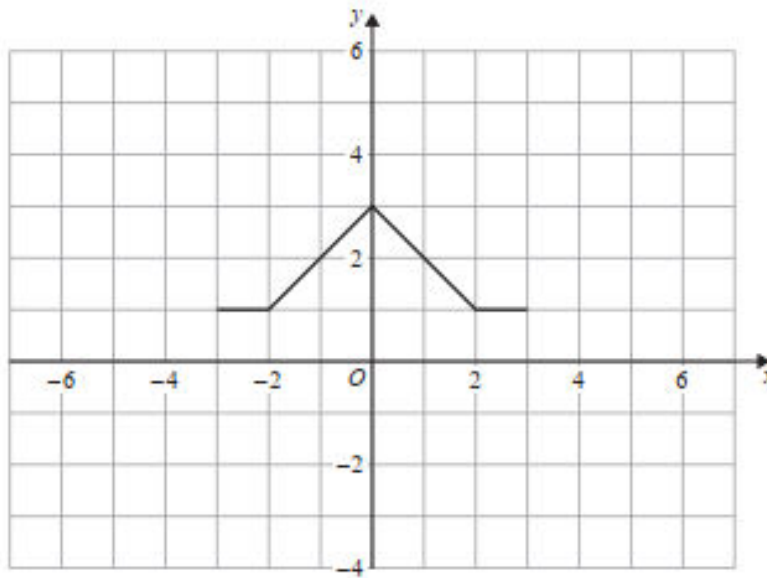

(2)

(b) The graph of $y = f(x)$ is shown on both grids below.

(i) On this grid, draw the graph of $y = 2f(x)$

(ii) On the grid below, draw the graph of $y = f(x - 3)$
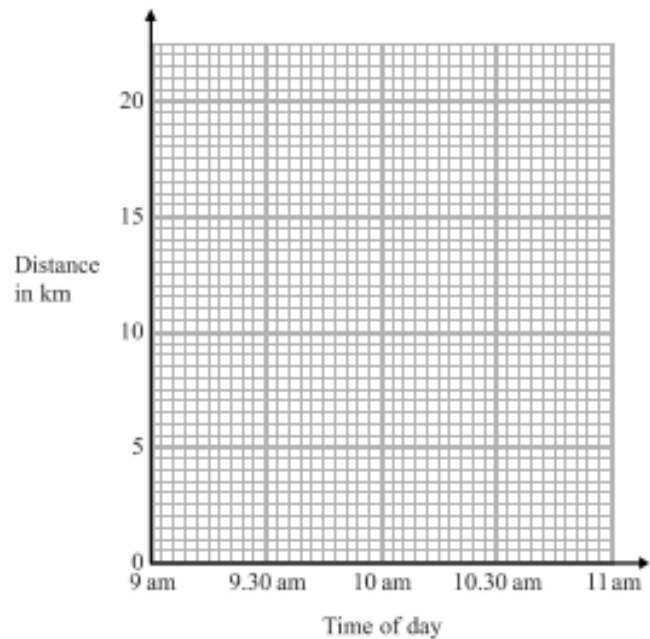

(2)

(Total for Question 19 is 4 marks)

Pearson Edexcel - Specimen Papers Set 1 - Paper 2 (Calculator) Higher Tier

12.

5   At 9 am, Bradley began a journey on his bicycle.

From 9 am to 9.36 am, he cycled at an average speed of 15 km/h.
From 9.36 am to 10.45 am, he cycled a further 8 km.

(a) Draw a travel graph to show Bradley's journey.

(3)

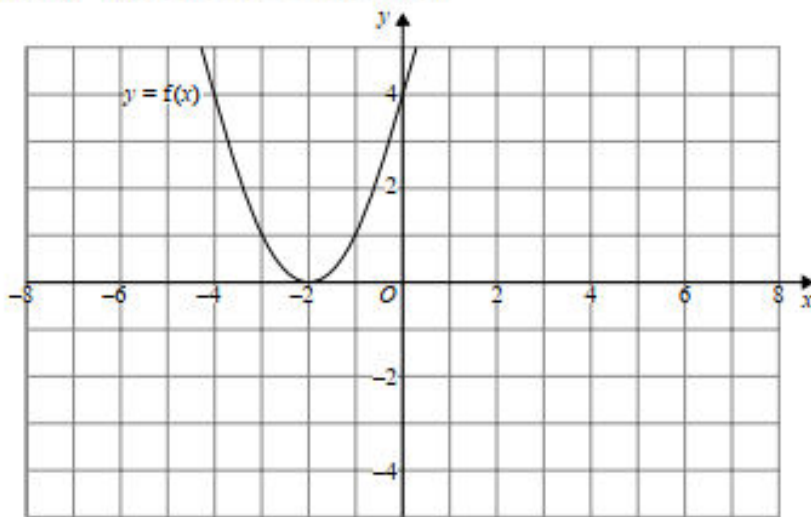From 10.45 am to 11 am, Bradley cycled at an average speed of 18 km/h.

(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

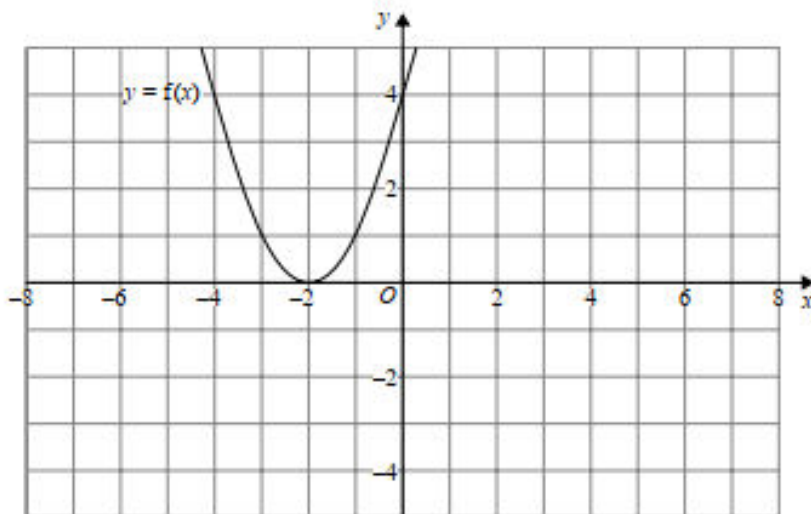... km

(2)

(Total for Question 5 is 5 marks)

Pearson Edexcel - Sample Paper 2 - (Calculator) Higher Tier

13.

19 The graph of $y = f(x)$ is shown on both grids below.

(a) On the grid above, sketch the graph of $y = f(-x)$

(1)

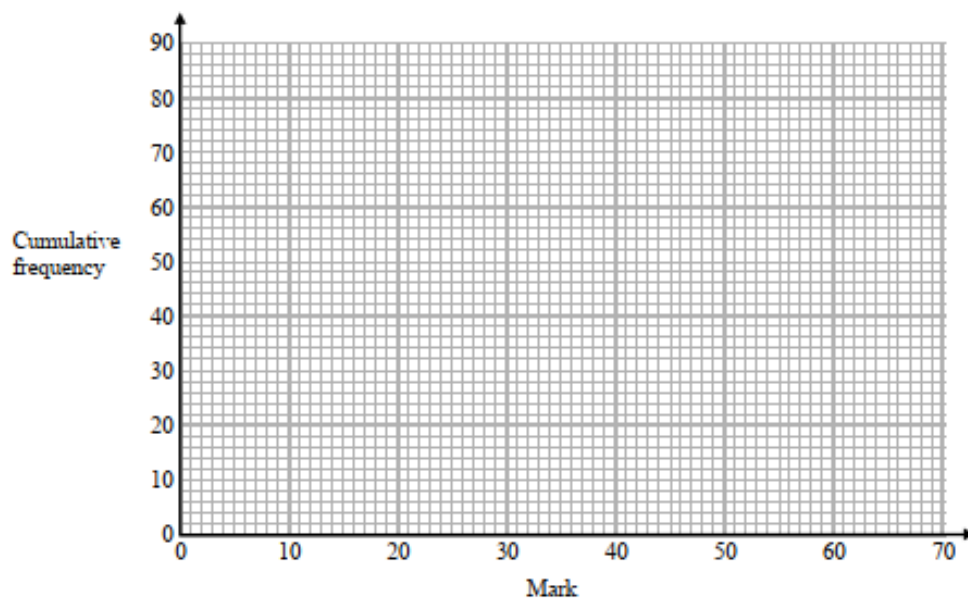(b) On this grid, sketch the graph of $y = -f(x) + 3$

(1)

(Total for Question 19 is 2 marks)

Pearson Edexcel - Sample Paper 3 - (Calculator) Higher Tier

14.

7 The cumulative frequency table shows the marks some students got in a test.

Mark (m)	Cumulative frequency
$0 < m \leqslant 10$	8
$0 < m \leqslant 20$	23
$0 < m \leqslant 30$	48
$0 < m \leqslant 40$	65
$0 < m \leqslant 50$	74
$0 < m \leqslant 60$	80

(a) On the grid, plot a cumulative frequency graph for this information.

Mark

(2)

(b) Find the median mark.

Students either pass the test or fail the test.
The pass mark is set so that 3 times as many students fail the test as pass the test.

(c) Find an estimate for the lowest possible pass mark.

....
(3)

(Total for Question 7 is 6 marks)

15.

17 Louis and Robert are investigating the growth in the population of a type of bacteria.
They have two flasks A and B.

At the start of day 1, there are 1000 bacteria in flask A.
The population of bacteria grows exponentially at the rate of 50% per day.

(a) Show that the population of bacteria in flask A at the start of each day forms a
geometric progression.

(2)

The population of bacteria in flask A at the start of the 10th day is k times the population
of bacteria in flask A at the start of the 6th day.

(b) Find the value of k.

....

(2)

At the start of day 1 there are 1000 bacteria in flask B.
The population of bacteria in flask B grows exponentially at the rate of 30% per day.

(c) Sketch a graph to compare the size of the population of bacteria in flask A and in
flask B.

(1)

(Total for Question 17 is 5 marks)

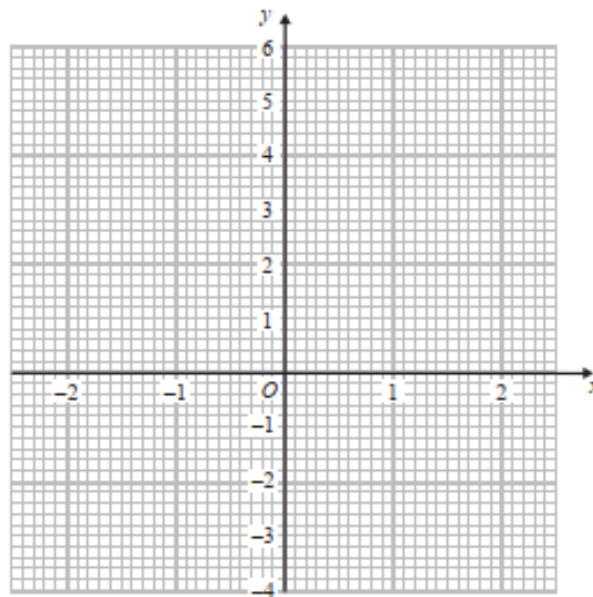**Pearson Edexcel - Thursday 9 June 2016 - Paper 2 (Calculator) Higher Tier**

16.

13 (a) Complete the table of values for $y = x^3 - 3x + 1$

x	-2	-1	0	1	2
y		3			3

(2)

(b) On the grid, draw the graph of $y = x^3 - 3x + 1$ for values of x from -2 to 2
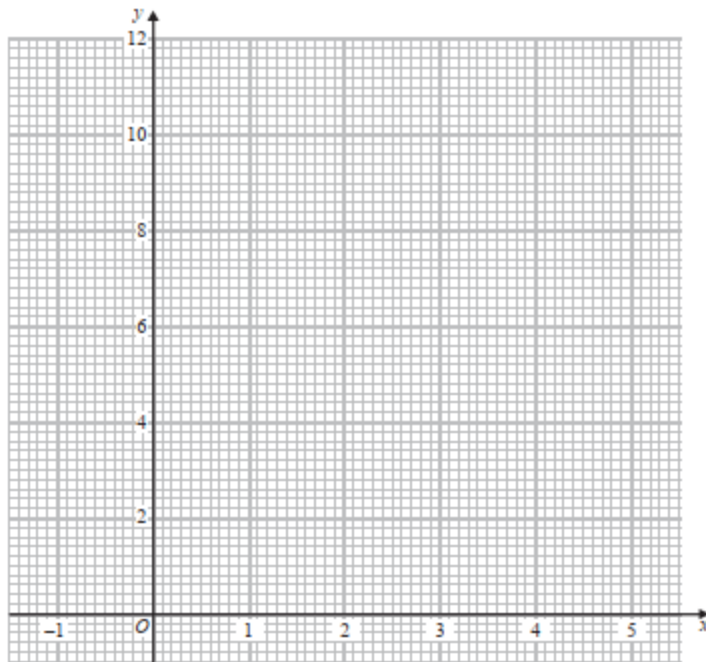

(2)

(Total for Question 13 is 4 marks)

Pearson Edexcel - Wednesday 4 November 2015 - Paper 1 (Non-Calculator) Higher Tier

17.

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

x	−1	0	1	2	3	4	5
y	6				2		12

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x + 2$ for values of x from −1 to 5

(2)

(c) Find estimates for the solutions of the equation $x^2 - 3x + 2 = 4$

(2)

(Total for Question 12 is 6 marks)

Pearson Edexcel - Wednesday 4 November 2015 - Paper 1 (Non-Calculator) Higher Tier

18.

15 Sue works for a company that delivers parcels.

One day the company delivered 80 parcels.
The table shows information about the weights, in kg, of these parcels.

Weight (w kg)	Frequency
$0 < w \leqslant 1$	19
$1 < w \leqslant 2$	17
$2 < w \leqslant 3$	15
$3 < w \leqslant 4$	12
$4 < w \leqslant 5$	10
$5 < w \leqslant 6$	7

(a) Complete the cumulative frequency table.

Weight (w kg)	Cumulative frequency
$0 < w \leqslant 1$	
$0 < w \leqslant 2$	
$0 < w \leqslant 3$	
$0 < w \leqslant 4$	
$0 < w \leqslant 5$	
$0 < w \leqslant 6$	

(1)

(b) On the grid opposite, draw a cumulative frequency graph for your table.

(2)
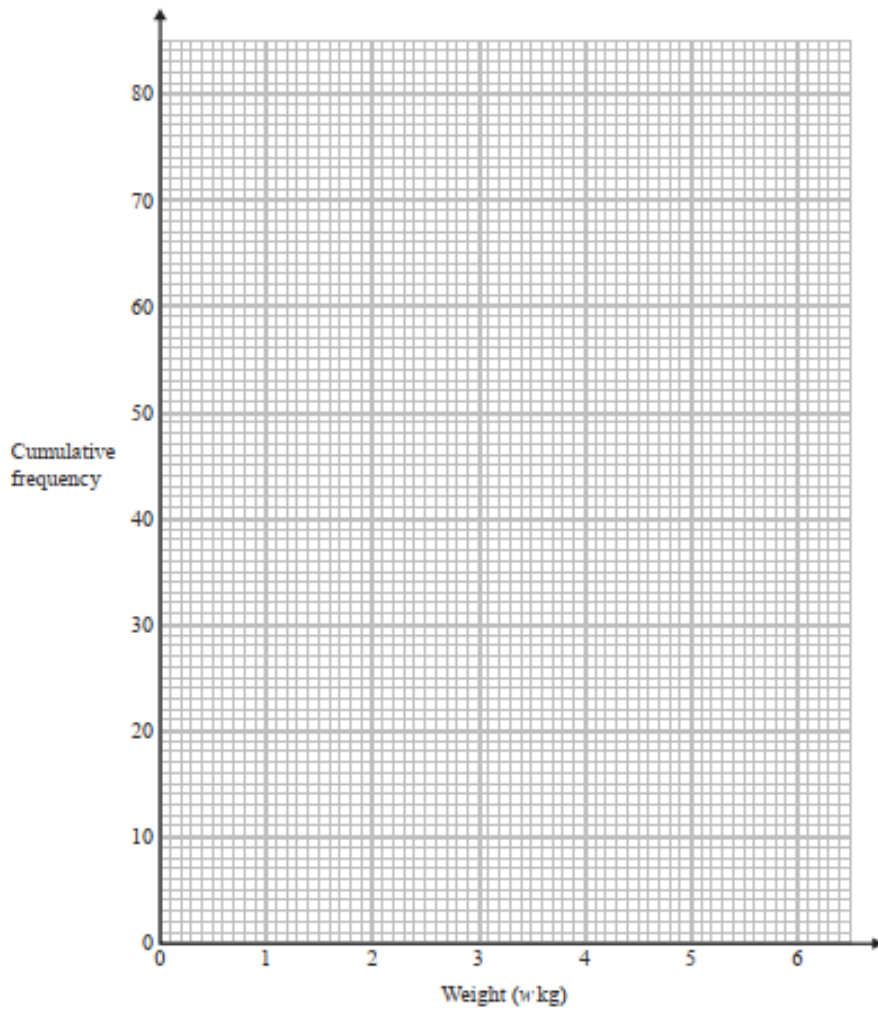
Sue says,

"75% of the parcels weigh less than 3.4 kg."

*(c) Is Sue correct?
You must show how you get your answer.

(3)

(Total for Question 15 is 6 marks)

Pearson Edexcel - Friday 6 November 2015 - Paper 2 (Calculator) Higher Tier

19.

13 (a) Given that x and y are integers such that

$$3 < x < 7$$
$$4 < y < 9$$
$$\text{and } x + y = 13$$

find all the possible values of x.

....
(2)

(b) On the grid below show, by shading, the region defined by the inequalities

$y \geqslant -1$ $y \leqslant 4 - x$ $y \leqslant 3x - 1$

Mark this region with the letter R.

(4)
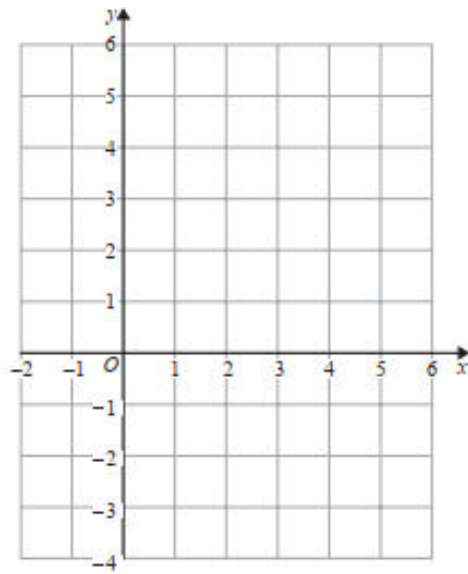
(Total for Question 13 is 6 marks)

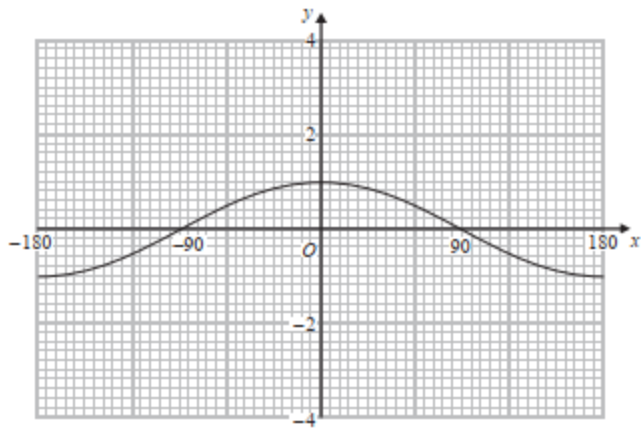**Pearson Edexcel - Friday 6 November 2015 - Paper 2 (Calculator) Higher Tier**

20.

23 Here is the graph of $y = \sin x°$ for $-180 \leqslant x \leqslant 180$
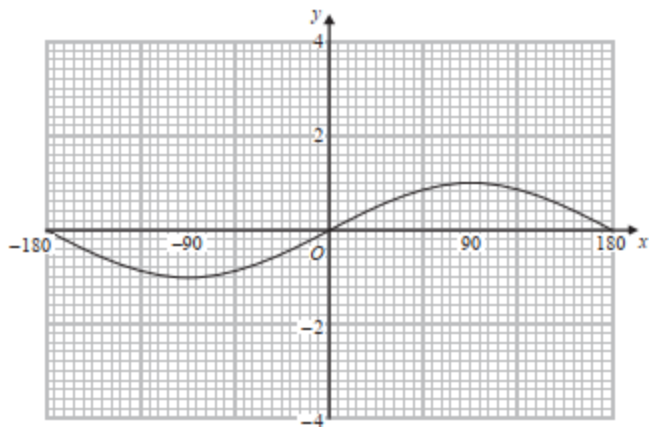
(a) On the grid above, sketch the graph of $y = \sin x° + 2$ for $-180 \leqslant x \leqslant 180$

(2)

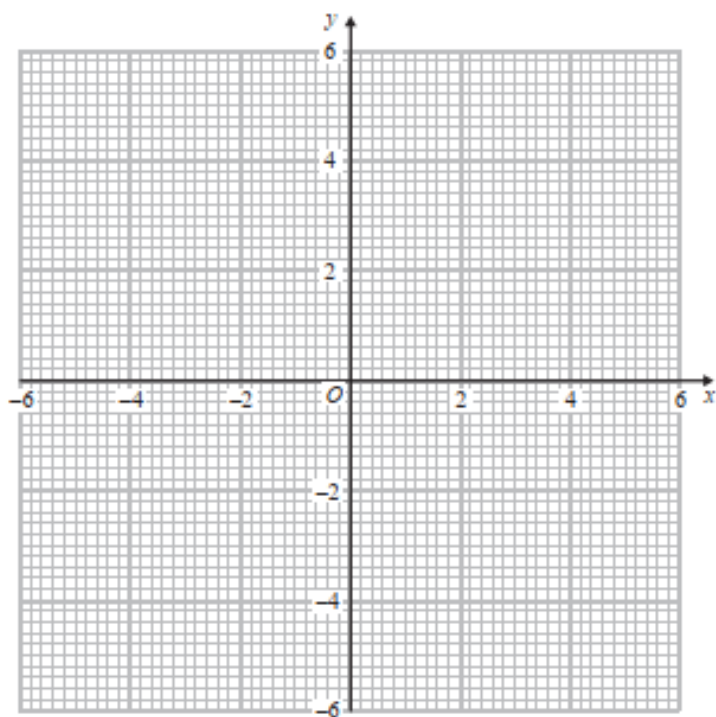Here is the graph of $y = \cos x°$ for $-180 \leqslant x \leqslant 180$

(b) On the grid above, sketch the graph of $y = -2 \cos x°$ for $-180 \leqslant x \leqslant 180$

(2)

(Total for Question 23 is 4 marks)

Pearson Edexcel - Monday 8 June 2015 - Paper 2 (Calculator) Higher Tier

21.

28 (a) On the grid, construct the graph of $x^2 + y^2 = 16$

(2)

(b) Find estimates for the solutions of the simultaneous equations

$$x^2 + y^2 = 16$$
$$y = 2x + 1$$

....

(3)

(Total for Question 28 is 5 marks)

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

22.

19 (a) Complete the table of values for $y = \dfrac{4}{x}$

x	0.5	1	2	4	5	8
y		4	2			

(2)

(b) On the grid, draw the graph of $y = \dfrac{4}{x}$ for $0.5 \leqslant x \leqslant 8$

(2)

Pearson Edexcel - Friday 7 November 2014 - Paper 2 (Calculator) Higher Tier
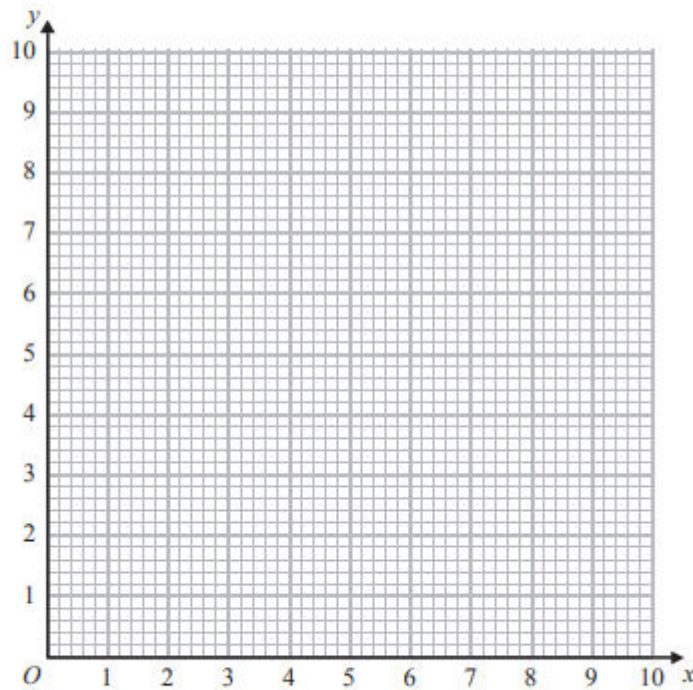
23.

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

(Total for Question 12 is 4 marks)

Pearson Edexcel - Monday 9 June 2014 - Paper 1 (Non-Calculator) Higher Tier

24.

15 (a) Complete the table of values for $y = x^2 - 2x - 1$

x	-2	-1	0	1	2	3	4
y	7			-2	-1		

(2)

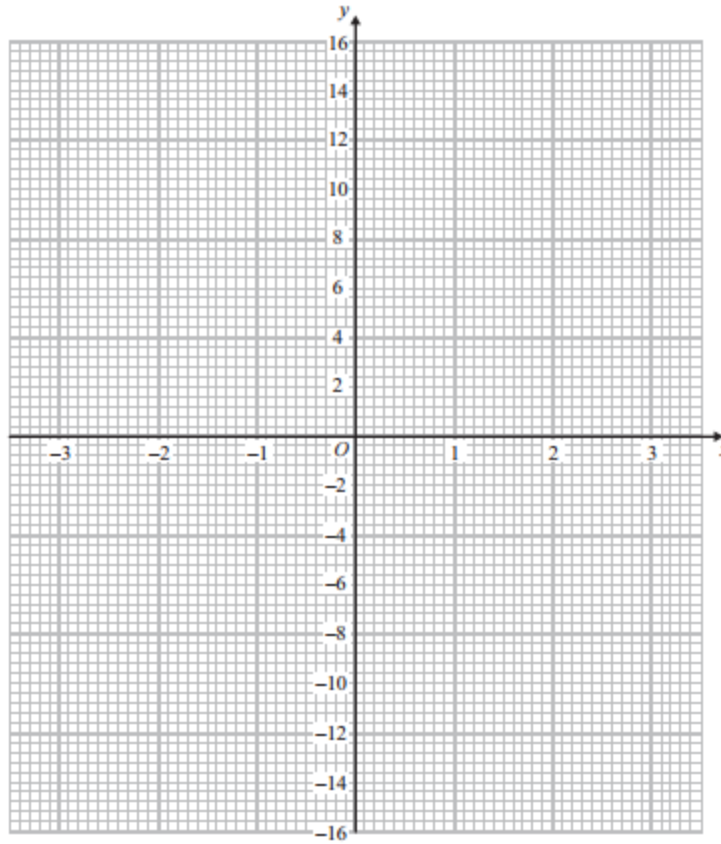(b) On the grid, draw the graph of $y = x^2 - 2x - 1$ for values of x from -2 to 4

(2)

(c) Solve $x^2 - 2x - 1 = x + 3$

(2)

(Total for Question 15 is 6 marks)

Pearson Edexcel - Wednesday 6 November 2013 - Paper 1 (Non-Calculator) Higher Tier

25.

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

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

26.

17 (a) Complete the table of values for $y = x^3 - 4x$

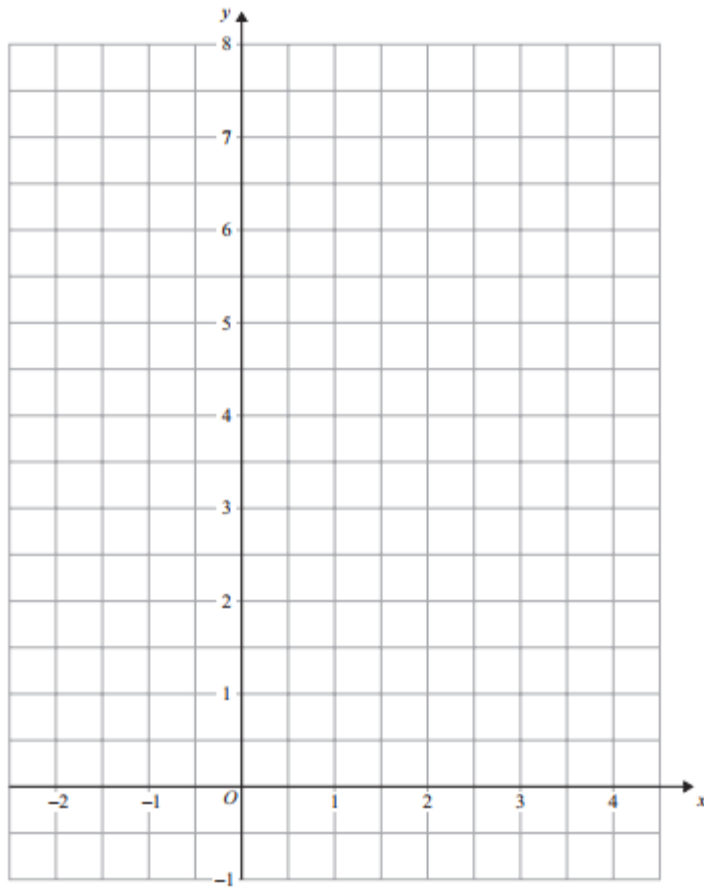| x	−3	−2	−1	0	1	2	3
y			3	0			15

(2)

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

(2)

(Total for Question 17 is 4 marks)

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

27.

12 On the grid, draw the graph of $y = \frac{1}{2}x + 5$ for values of x from -2 to 4

(Total for Question 12 is 3 marks)

Pearson Edexcel - Friday 14 June 2013 - Paper 2 (Calculator) Higher Tier

28.

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

x	−2	−1	0	1	2	3	4
y		3	0			3	

(2)

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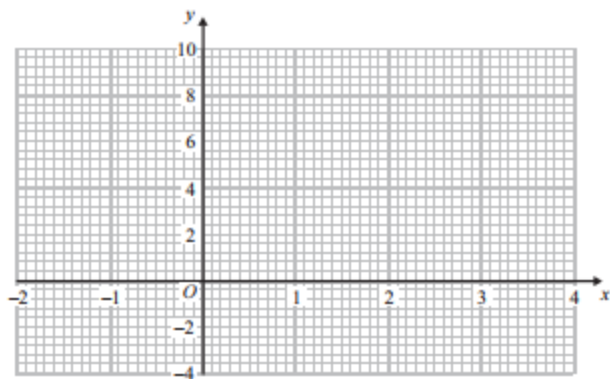
(2)

(c) Solve $x^2 - 2x - 2 = 1$

....

(2)

(Total for Question 15 is 6 marks)

Pearson Edexcel - Thursday 28 February 2013 - Paper 1 (Non-Calculator) Higher Tier

29.

4 (a) Complete the table of values for $y = 2x + 5$

x	−2	−1	0	1	2
y	1		5		

(2)

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

(2)

(Total for Question 4 is 4 marks)

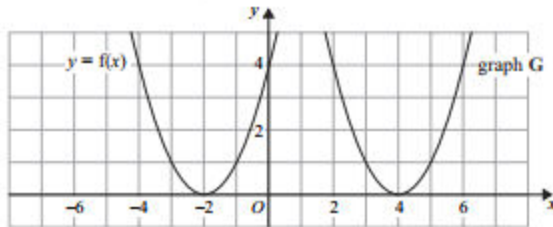**Pearson Edexcel - Thursday 28 February 2013 - Paper 1 (Non-Calculator) Higher Tier**

30.
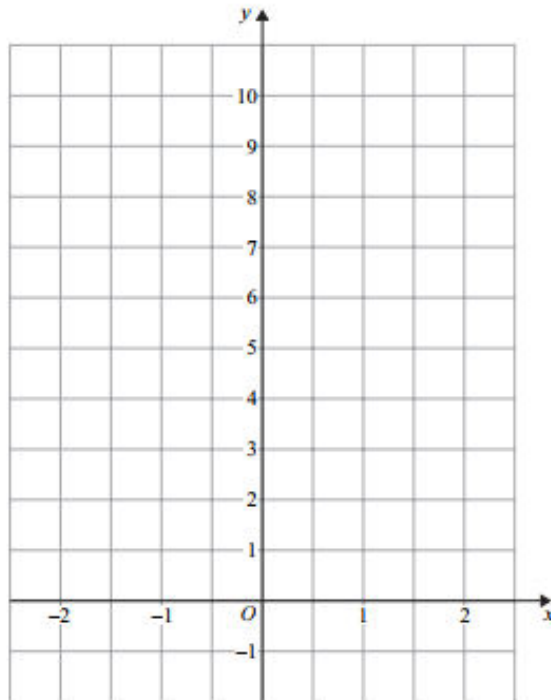
25 $y = f(x)$

The graph of $y = f(x)$ is shown on the grid.
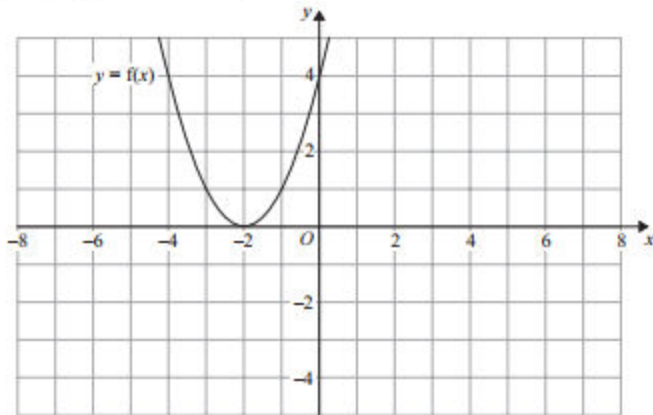
(a) On the grid above, sketch the graph of $y = -f(x)$.

(2)

The graph of $y = f(x)$ is shown on the grid.

The graph **G** is a translation of the graph of $y = f(x)$.
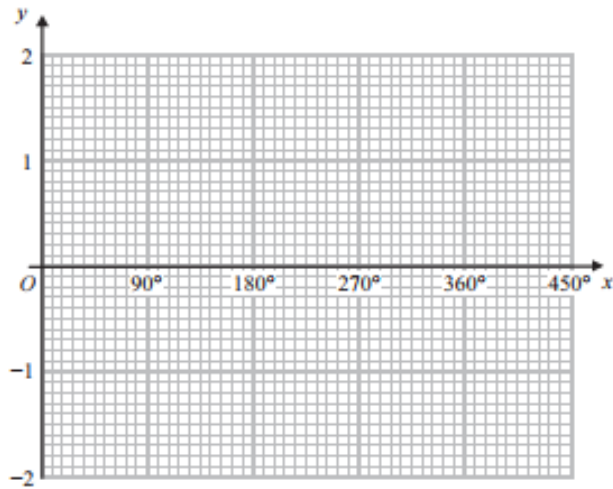
(b) Write down the equation of graph **G**.

....

(1)

(Total for Question 25 is 3 marks)

Pearson Edexcel - Tuesday 6 November 2012 - Paper 1 (Non-Calculator) Higher Tier

31.

27
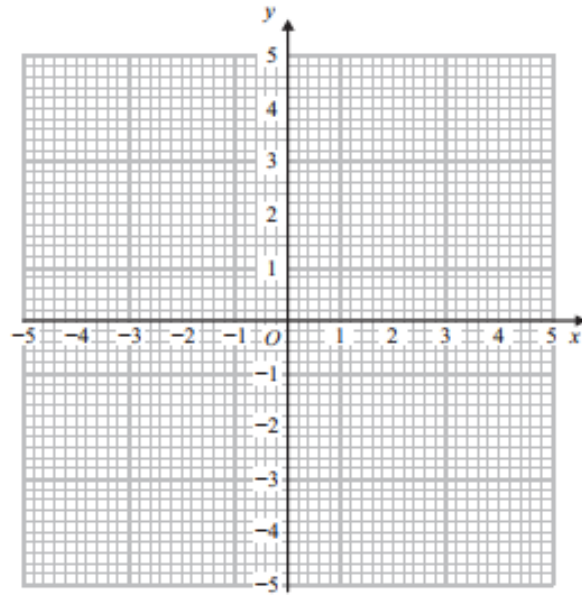
(a) On the grid, draw the graph of $x^2 + y^2 = 4$

(2)

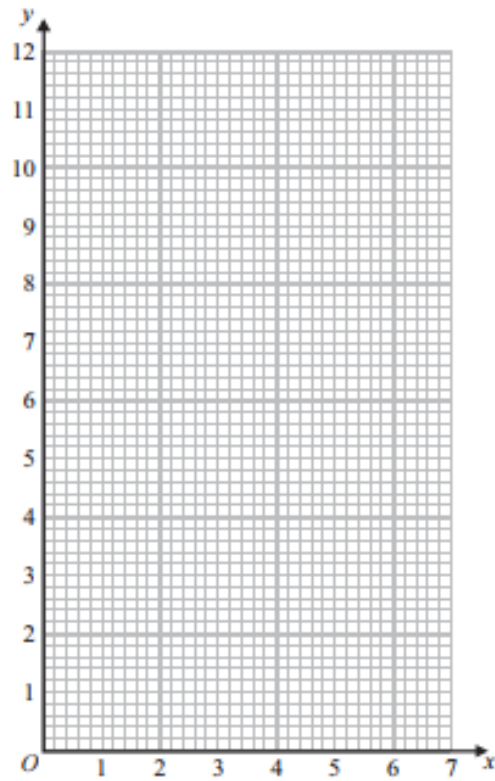(b) On the grid, sketch the graph of $y = \cos x$ for $0° \leqslant x \leqslant 360°$

(2)

(Total for Question 27 is 4 marks)

Pearson Edexcel - Thursday 8 November 2012 - Paper 2 (Calculator) Higher Tier

32.

18 (a) Complete the table of values for $y = \dfrac{6}{x}$

x	0.5	1	2	3	4	5	6
y		6	3		1.5		1

(2)

(b) On the grid, draw the graph of $y = \dfrac{6}{x}$ for $0.5 \leqslant x \leqslant 6$

(2)

(Total for Question 18 is 4 marks)

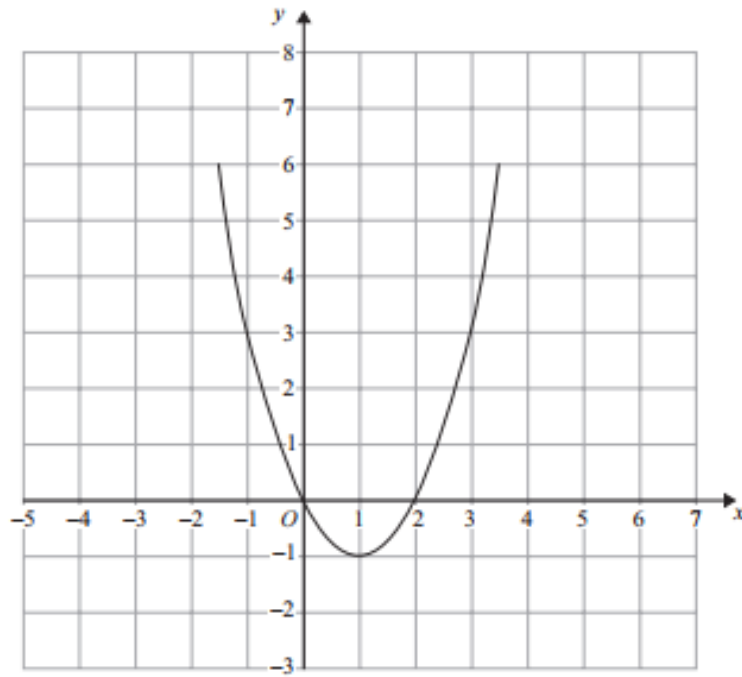**Pearson Edexcel - Monday 11 June 2012 - Paper 1 (Non-Calculator) Higher Tier**

33.

26 The graph of $y = f(x)$ is shown on each of the grids.

(a) On this grid, sketch the graph of $y = f(x - 3)$

(2)
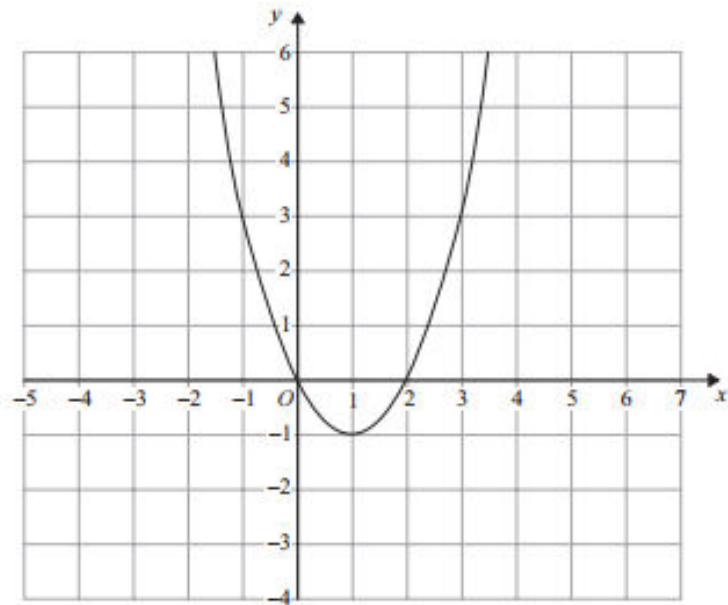
(b) On this grid, sketch the graph of $y = 2f(x)$
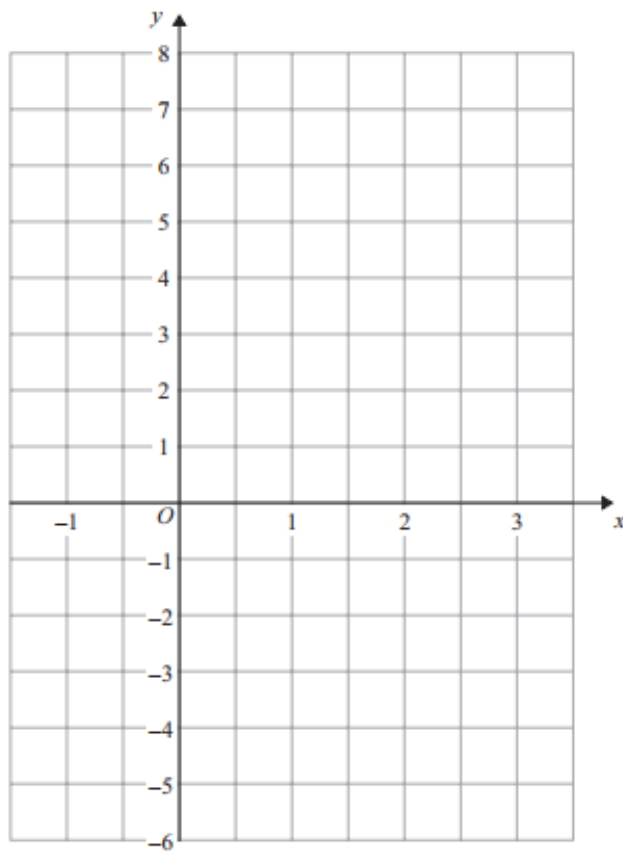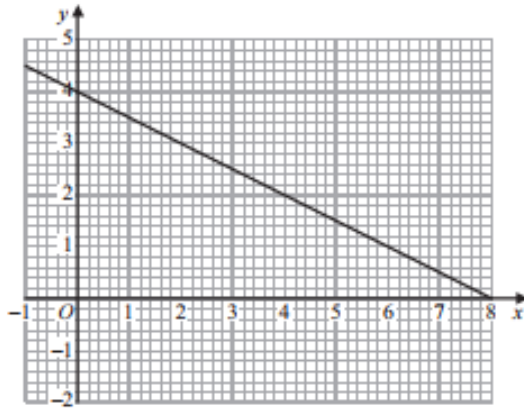

(2)

(Total for Question 26 is 4 marks)

Pearson Edexcel - Wednesday 13 June 2012 - Paper 2 (Calculator) Higher Tier

34.

4   On the grid, draw the graph of $y = 3x - 2$ for values of x from -1 to 3

(Total for Question 4 is 3 marks)

Pearson Edexcel - Friday 2 March 2012 - Paper 3 (Non-Calculator) Higher Tier

35.

13.

The graph of the straight line $x + 2y = 8$ is shown on the grid.

(a) On the grid, draw the graph of $y = \dfrac{x}{2} - 1$

(3)

(b) Use the graphs to find estimates for the solution of

$x + 2y = 8$

$y = \dfrac{x}{2} - 1$

$x = \text{.....................} \quad y = \text{.....................}$

(1)

(Total 4 marks)

Pearson Edexcel - Monday 14 November 2011 - Paper 4 (Calculator) Higher Tier

36.

13. (a) Complete the table of values for $3x + 2y = 6$

x	−2	−1	0	1	2	3
y		4.5	3			−1.5

(2)

(b) On the grid, draw the graph of $3x + 2y = 6$
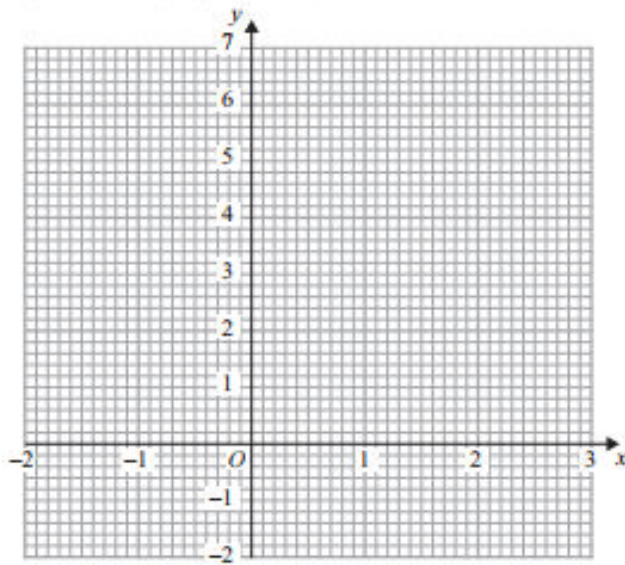
(2)

(c) Find the gradient of the graph of $3x + 2y = 6$

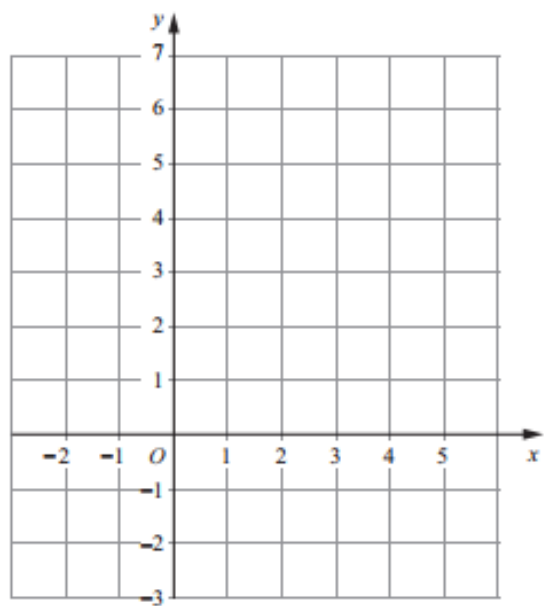...

(2)

(Total 6 marks)

Pearson Edexcel - Friday 10 June 2011 - Paper 4 (Calculator) Higher Tier

37.

4. On the grid, draw the graph of $y = 4x - 2$

Pearson Edexcel - Tuesday 9 November 2010 - Paper 3 (Non-Calculator) Higher Tier

38.
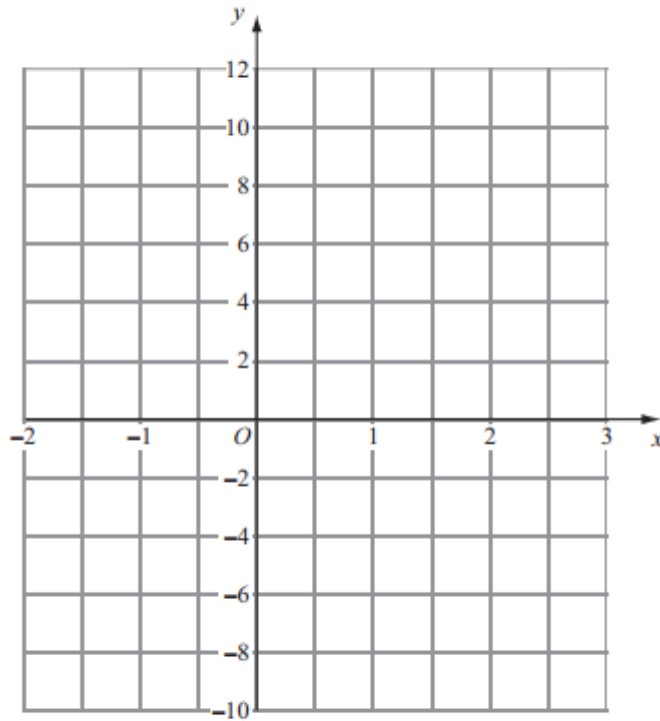
8. On the grid draw the graph of $x + y = 4$ for values of x from -2 to 5
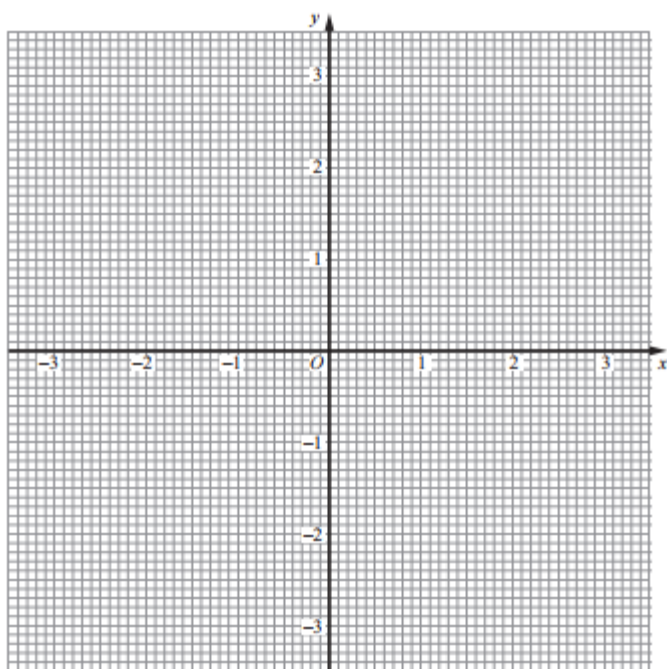

(Total 3 marks)

Pearson Edexcel - Tuesday 9 November 2010 - Paper 3 (Non-Calculator) Higher Tier

39.

28. (a) Construct the graph of $x^2 + y^2 = 9$

(2)

(b) By drawing the line $x + y = 1$ on the grid, solve the equations $x^2 + y^2 = 9$
$x + y = 1$

$x = $................................, $y = $................................

or $x = $................................, $y = $................................

(3)

(Total 5 marks)

Pearson Edexcel - Friday 12 November 2010 - Paper 4 (Calculator) Higher Tier

40.

22. (a) Complete the table of values for $y = x^3 - 7$

x	-2	-1	0	1	2	3
y		-8				20

(2)

(b) On the grid, draw the graph of $y = x^3 - 7$ for values of x from -2 to 3

(2)

(Total 4 marks)

Pearson Edexcel - Friday 12 November 2010 - Paper 4 (Calculator) Higher Tier

41.
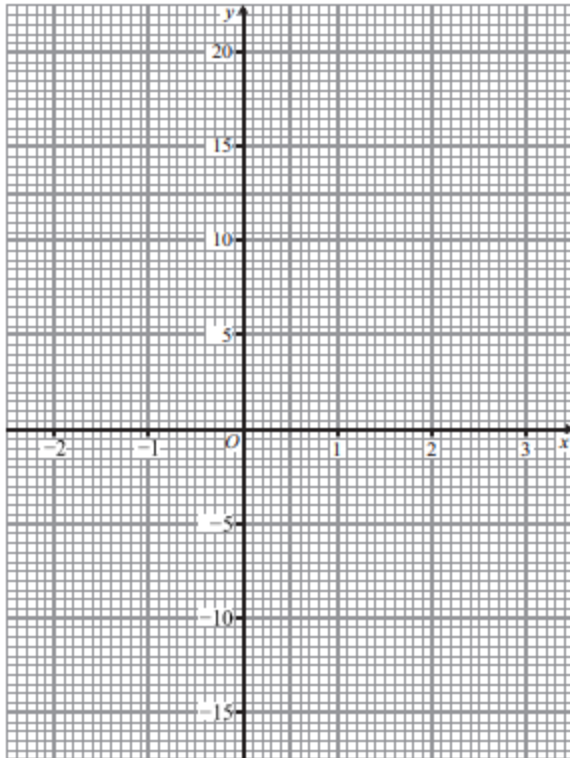
27. The graph of $y = f(x)$ is shown on the grids.

(a) On this grid, sketch the graph of $y = f(x - 3)$

(2)
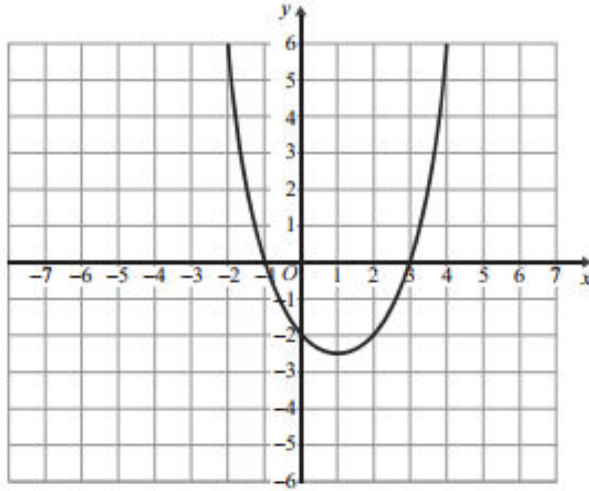
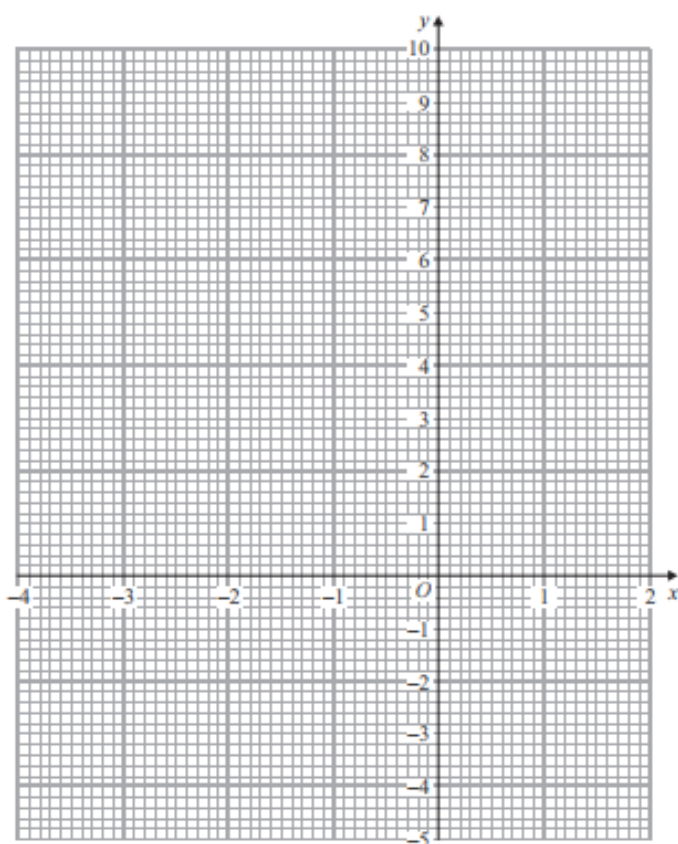(b) On this grid, sketch the graph of $y = -f(x)$

(2)

(Total 4 marks)

Pearson Edexcel - Monday 7 June 2010 - Paper 3 (Non-Calculator) Higher Tier

42.
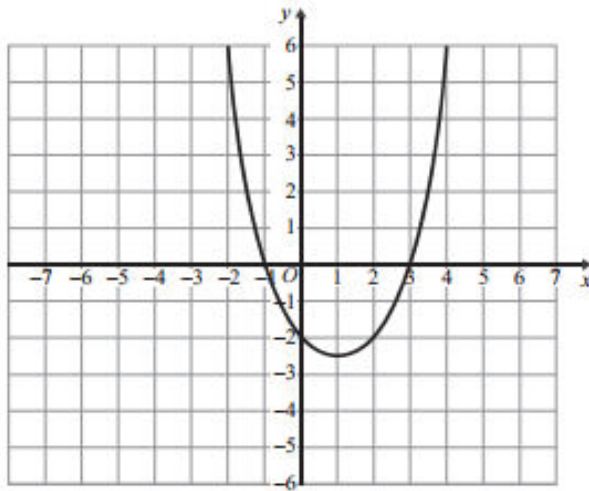
14. (a) Complete the table of values for $y = x^2 + x - 3$

x	−4	−3	−2	−1	0	1	2
y	9		−1	−3			3

(2)

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

(2)

(c) Use your graph to find estimates for the solutions of $x^2 + x - 3 = 0$

$x =$ ....

$x =$ ....

(1)

(Total 5 marks)

43.

4. (a) Complete the table of values for $y = 3x + 4$

x	−2	−1	0	1	2
y		1			10

(2)

(b) On the grid, draw the graph of $y = 3x + 4$
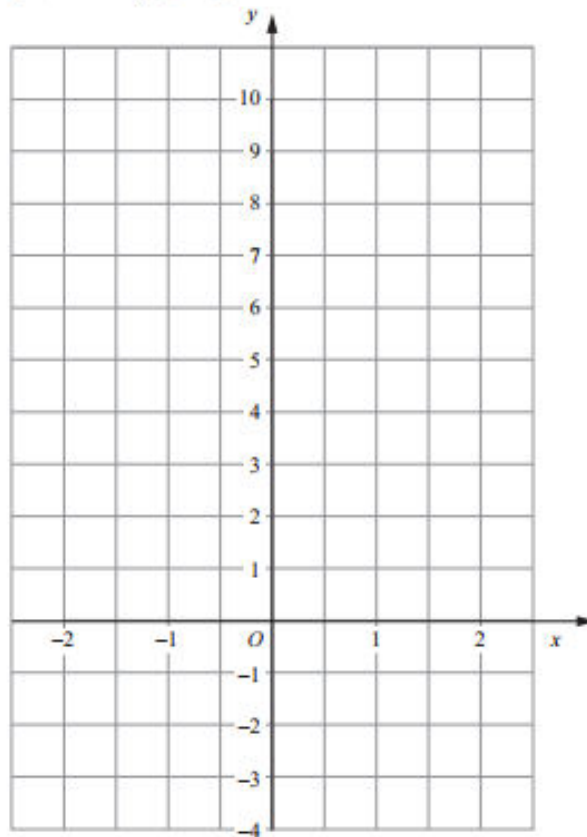
(2)

(Total 4 marks)

44.

16. Draw the locus of all points which are equidistant from the lines *AB* **and** *AC*.

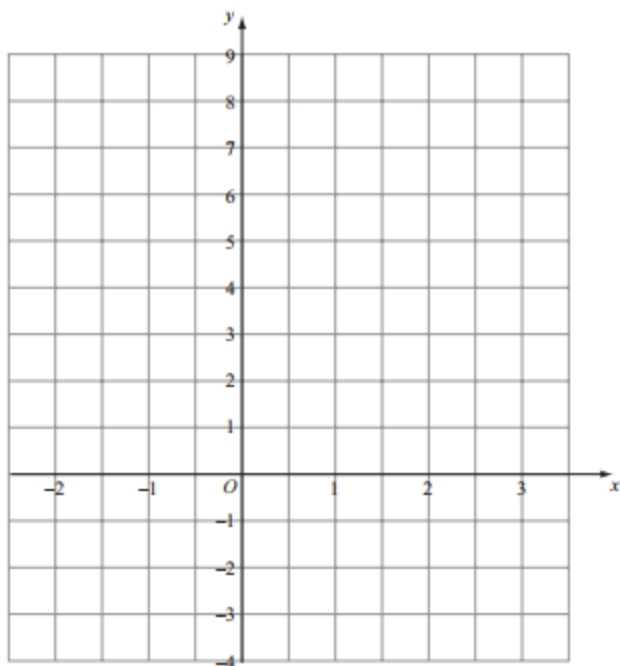**Pearson Edexcel - Thursday 5 November 2009 - Paper 3 (Non-Calculator) Higher Tier**

45.

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

x	−2	−1	0	1	2	3
y		0	2			

(2)

(b) On the grid, draw the graph of $y = 2x + 2$

(2)

(c) Use your graph to find

(i) the value of y when x = −1.5

y = ...

(ii) the value of x when y = 7

x = ...

(2)

(Total 6 marks)

Pearson Edexcel - Tuesday 10 November 2009 - Paper 4 (Calculator) Higher Tier

46.

17. (a) Complete the table of values for $y = x^2 - 3x - 1$

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

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x - 1$ for values of x from -2 to 4
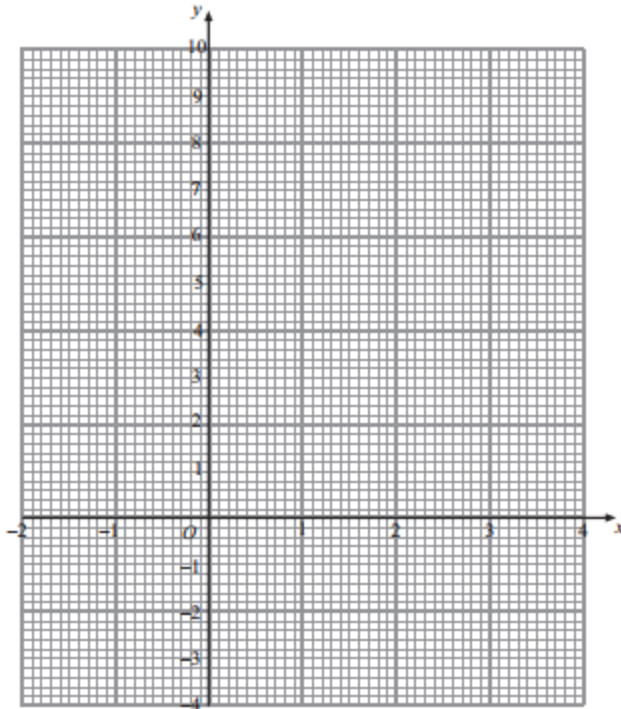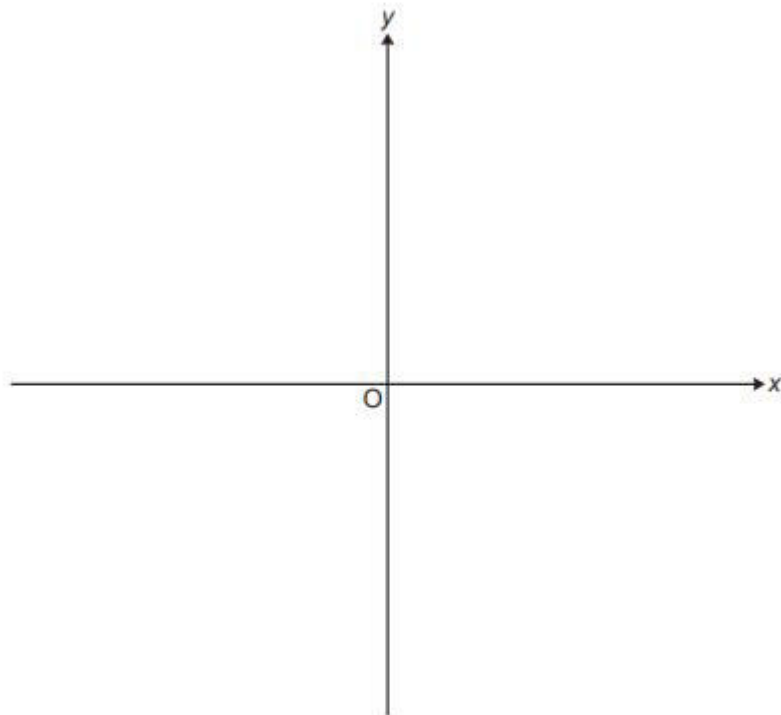

(2)

(Total 4 marks)

OCR GSCE – Thursday 5 November 2020 – Paper 5 (Non-Calculator) Higher Tier

47.

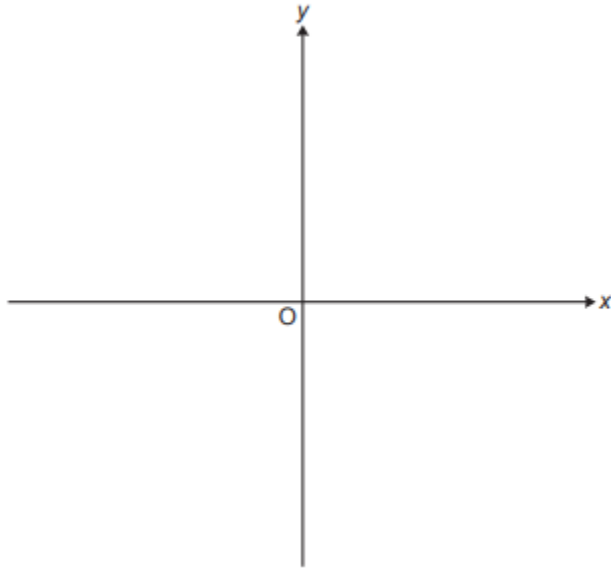**19** **(a)** Write $x^2 - 10x + 22$ in the form $(x - a)^2 - b$.

(a) .... [3]

(b) Sketch the graph of $y = x^2 - 10x + 22$.
Show clearly the coordinates of any turning points and the value of the y-intercept.

[4]

17 Sketch the graph of $y = 3^x$.
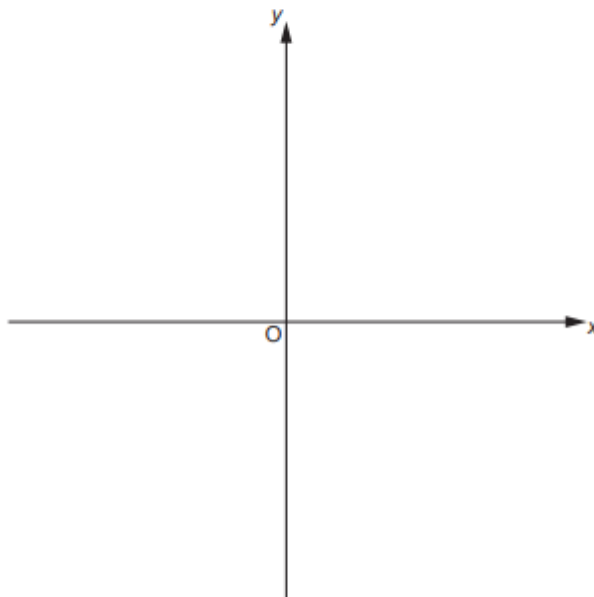Give the value of the y-intercept.

[2]

20 (a) Write $x^2 - 6x + 11$ in the form $(x - a)^2 + b$.

(a) .... [3]

(b) Sketch the graph of $y = x^2 - 6x + 11$.
Show clearly the coordinates of any turning points.

[3]

50.

7   (a)   Complete the table for $y = x^2 - 4x + 1$.

x	-1	0	1	2	3	4	5
y		-1			-2		6

[2]

(b)   Draw the graph of $y = x^2 - 4x + 1$ for $-1 \leqslant x \leqslant 5$.
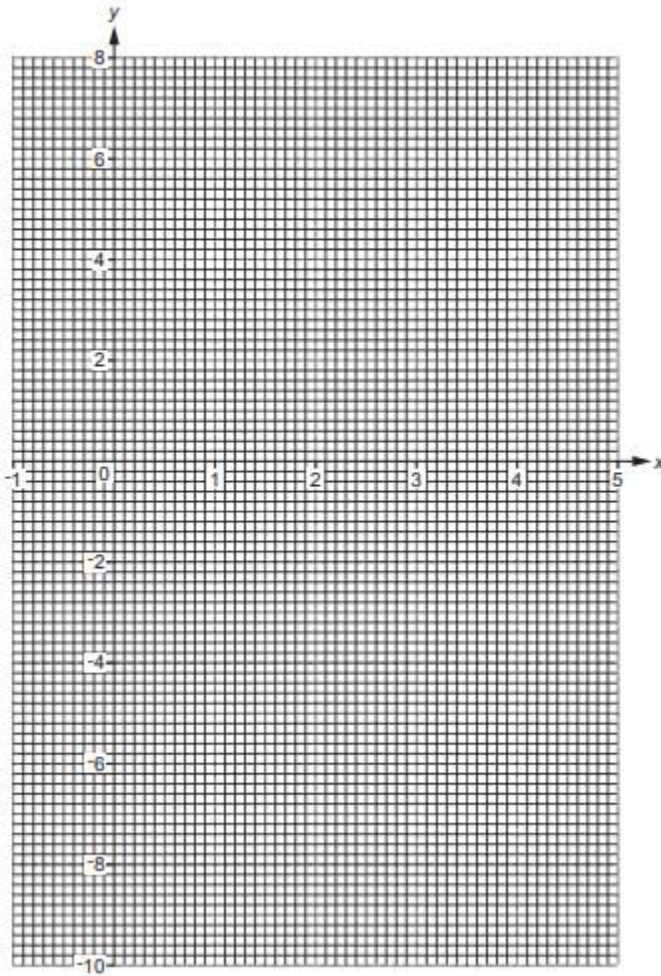
[3]

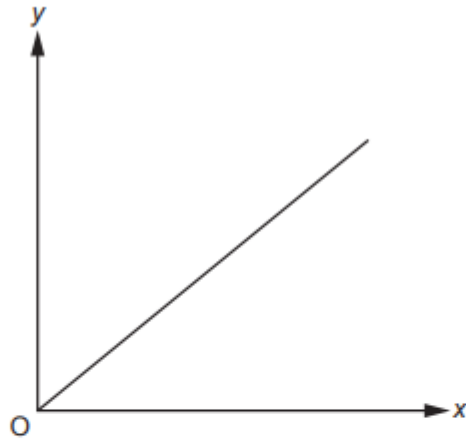**(c)** On the same grid, draw the graph of $y = 2x - 6$ for $-1 \leqslant x \leqslant 5$. [3]

(d) Use your graphs to solve the equation $x^2 - 4x + 1 = 2x - 6$.

Give your answers to 1 decimal place.

(d) $x =$ .... or $x =$ .... [2]

51.

13 Shirley is asked to sketch a graph of $y = 5^x$ for $x \geqslant 0$.
She produces the following.

The graph has two errors.
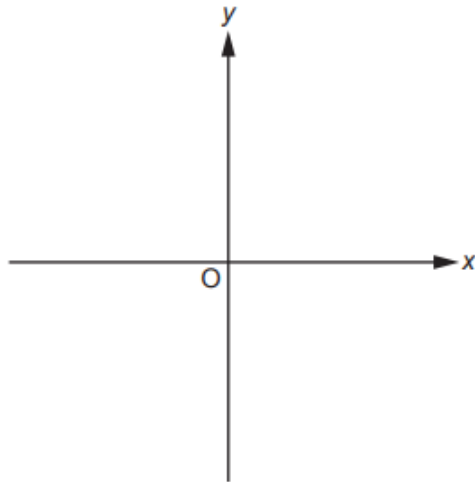
How should they be corrected?

1 ....

....

2 ....

.... **[2]**

17 (a) Write $x^2 + 8x + 3$ in the form $(x+a)^2 - b$.

(a) .... **[3]**

(b) Sketch the graph of $y = x^2 + 8x + 3$.
Show clearly the coordinates of any turning points and the y-intercept.

[4]

53.

16 Sketch the graph of $y = -\sin x$ for $0° \leqslant x \leqslant 360°$.

[3]
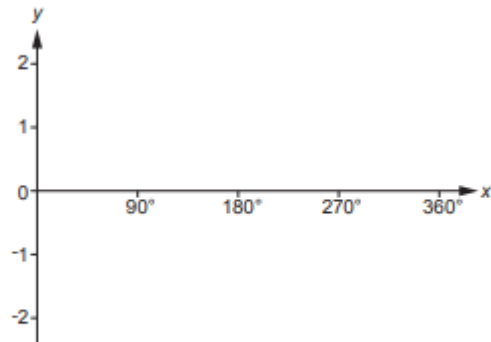
21 The number of gannets on an island is assumed to follow this exponential growth model.

$$N = 0.45 \times 1.07^x$$

N is the number of gannets, in thousands.
x is the number of years after 1st January 2010.

(a) Complete the table for $N = 0.45 \times 1.07^x$.

x	0	5	10	15	20
N	0.45	0.63		1.24	

[2]

(b) Draw the graph of $N = 0.45 \times 1.07^x$.

Number of gannets, N (thousands)

Number of years, x, after 1st January 2010
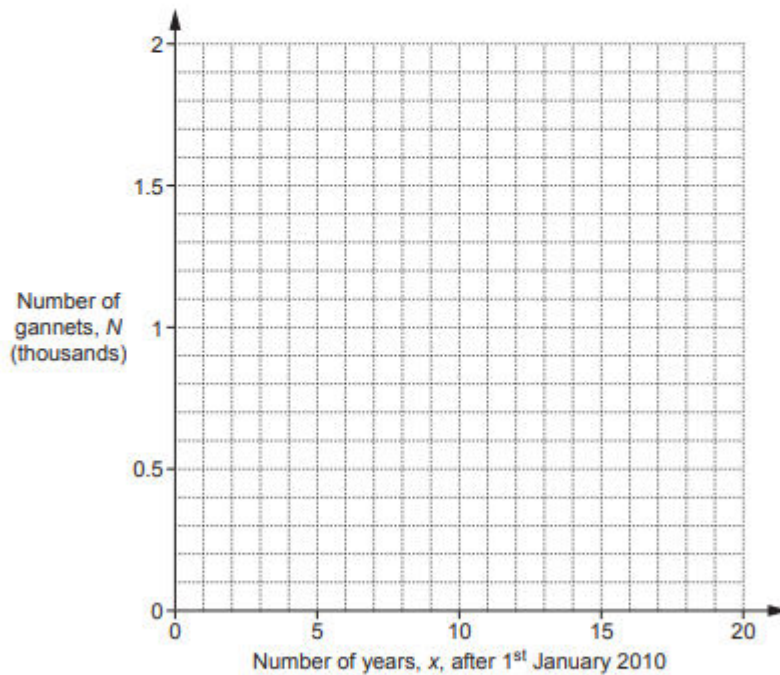
[2]

(c) Use the graph to find **the year** when the gannet population is predicted to reach 1000.

(c) .... [2]

55.

18 **(a)** **(i)** Write $x^2 + 4x - 16$ in the form $(x + a)^2 - b$.

(a)(i) .... **[3]**

(ii) Solve the equation $x^2 + 4x - 16 = 0$.
Give your answers in surd form as simply as possible.

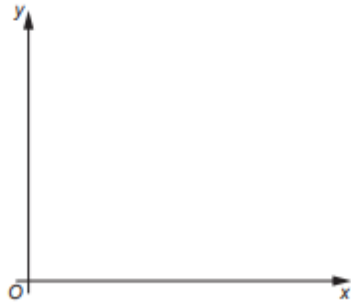(ii) $x =$ .... or $x =$ .... **[4]**

(b) Sketch the graph of $y = x^2 + 4x - 16$, showing clearly the coordinates of any turning points.

[3]
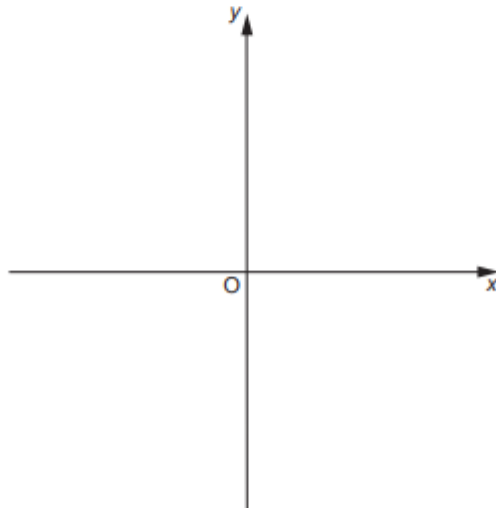
10 Sketch a graph which shows that y is directly proportional to x^2.

[2]

18 (a) Sketch the graph of $y = \cos x + 1$ for $0° \leqslant x \leqslant 720°$.
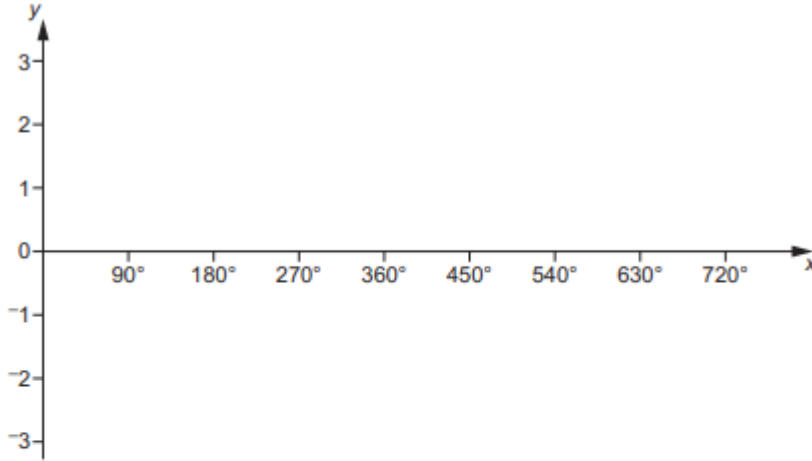
[3]

(b) Explain why the equation $\cos x + 1 = 2.7$ has no solutions.

....

....

.... [1]

17 For each graph below, select its possible equation from this list.

$$y = \frac{1}{x} \qquad y = \cos x \qquad y = x^2 \qquad y = \left(\frac{1}{2}\right)^x \qquad y = 2^x$$

$$y = \sin x \qquad y = 2^{-x} \qquad y = \tan x \qquad y = x^3 \qquad y = \frac{1}{x^2}$$

(a)

(a) y = ...

(b)

(b) y = ...

(c)

(c) y = ...

[3]
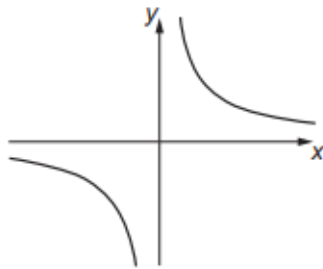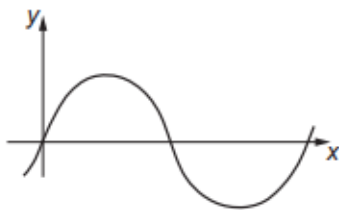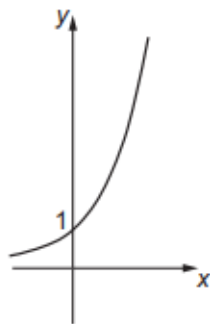
9   (a) Complete the table for $y = x^3 - 3x$.

x	-3	-2	-1	0	1	2	3
y	-18	-2		0	-2	2	18

[1]

  (b) Draw the graph of $y = x^3 - 3x$ for $-3 \leqslant x \leqslant 3$.

[3]
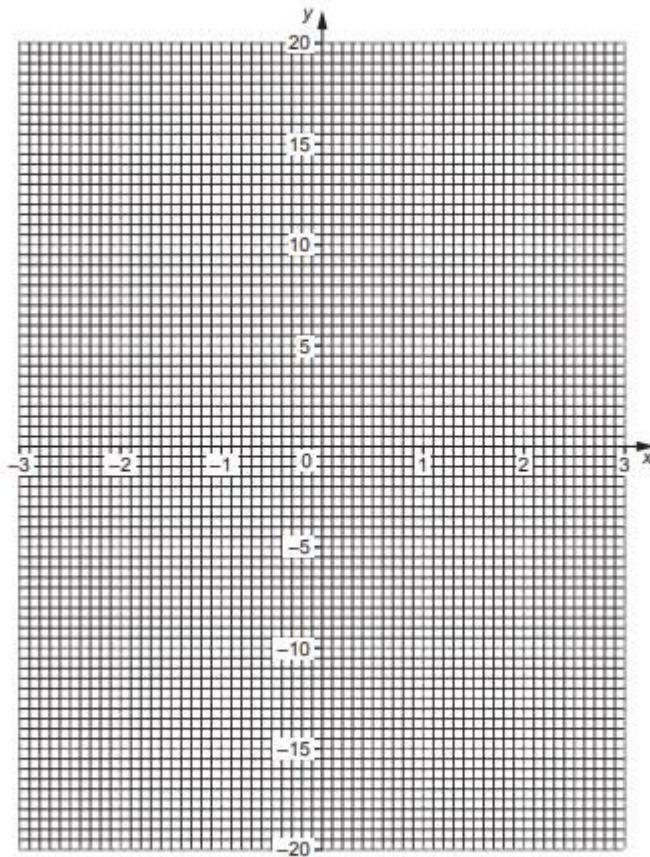
  (c) Use your graph to solve $x^3 - 3x = 10$.

(c) $x =$ .... [1]

60.

5   (a) Complete this table for $y = x^2 + x - 4$.

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

[2]

(b) Draw the graph of $y = x^2 + x - 4$ for $-4 \leqslant x \leqslant 3$.

[3]
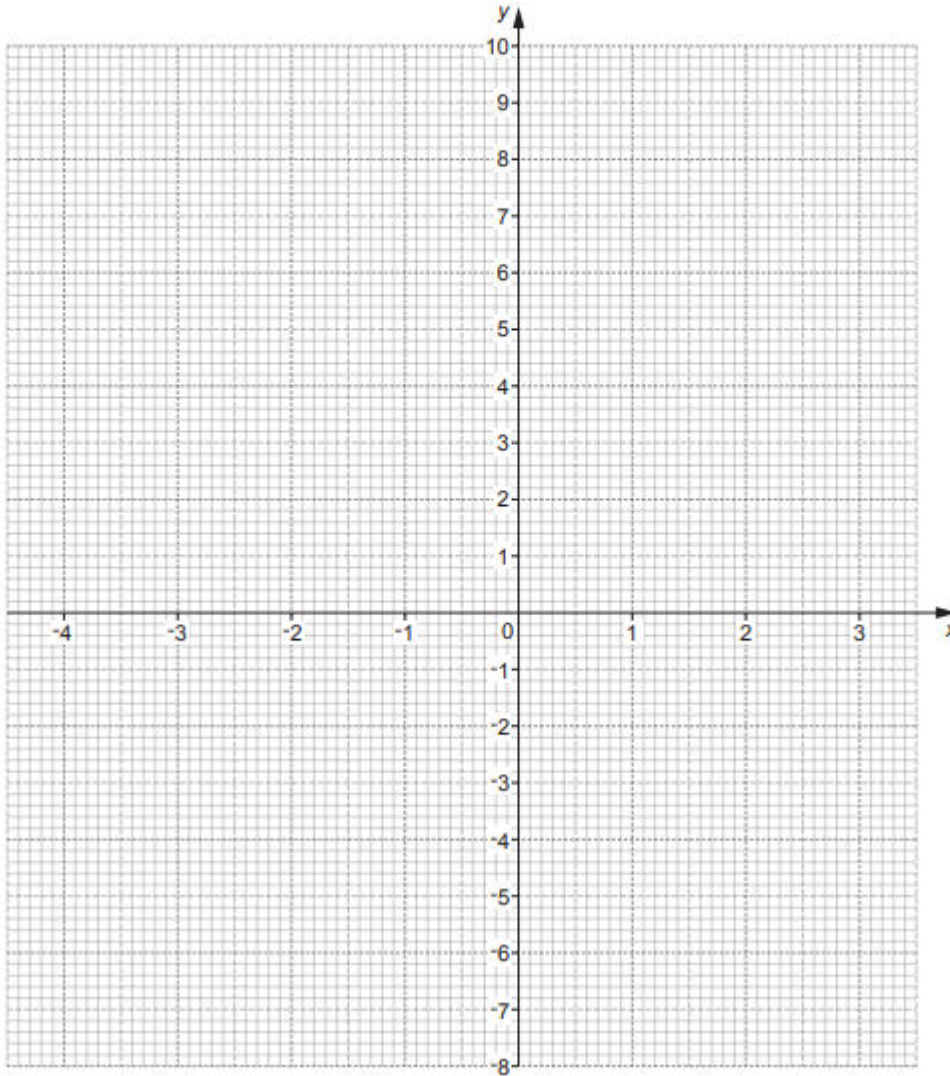
(c) Use your graph to solve $x^2 + x - 4 = 0$.

(c) $x = $ .... or $x = $ .... [2]

(d) On the same grid, draw the graph of $y = {}^-2x - 1$ for ${}^-4 \leqslant x \leqslant 3$.
You may use the table if you wish.

x	-4		
y	7		

[3]

(e) Use your graphs to solve the equation $x^2 + x - 4 = {}^-2x - 1$.

(e) $x = $ .... or $x = $ .... [2]

61.

7　(a)　Complete the table for $y = x^2 - 2x$.

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

[1]

(b)　Draw the graph of $y = x^2 - 2x$ for $-1 \leqslant x \leqslant 4$.

[2]
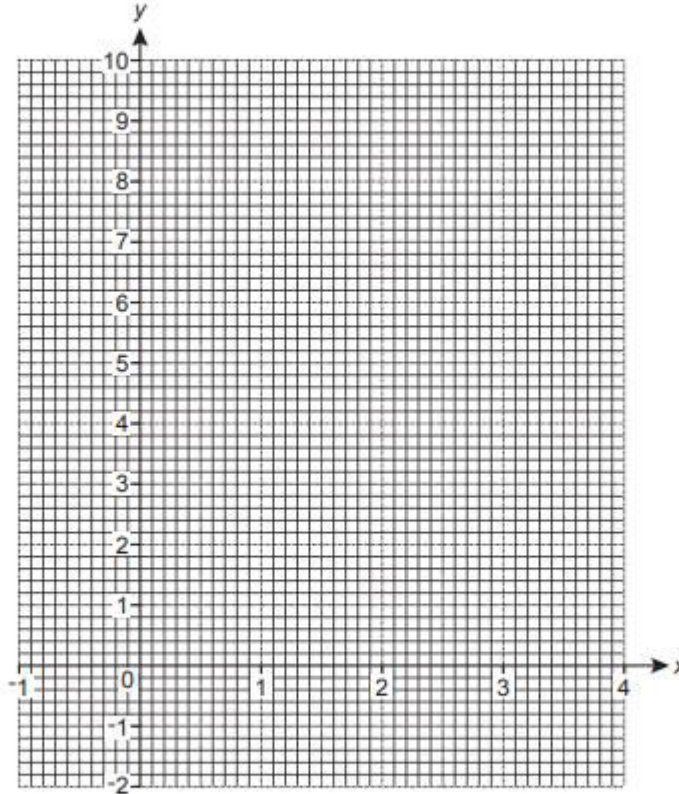
(c)　Use your graph to solve $x^2 - 2x = 2$.

(c) .... [2]

62.

15 (a) Sketch the graph of $y = \sin x$ for $0° \leqslant x \leqslant 360°$.
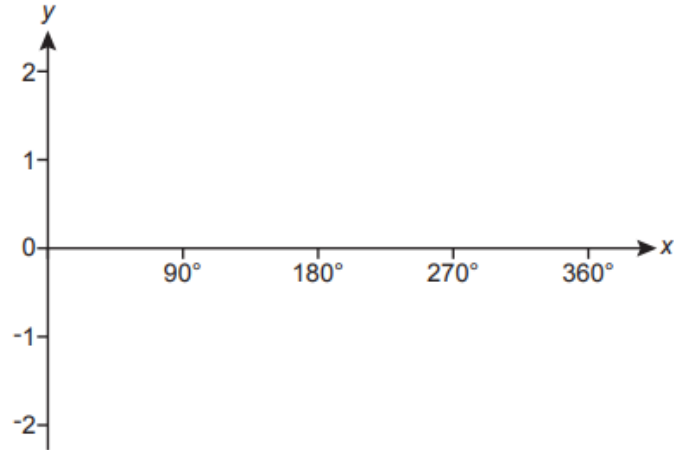
[2]

(b) Solve the equation $5 \sin x = {}^-3$.
Give all of the solutions in the range $0° \leqslant x \leqslant 360°$.

(b) $x =$ ....° or $x =$ ....° **[4]**

10   The number of items, n, made in 1 hour by a machine is given by $n = \dfrac{60}{t}$

t is the time in minutes the machine takes to make one item.
The value of t changes for different types of item.

10 (a)   On the grid below, draw the graph of $n = \dfrac{60}{t}$ for values of t from 1 to 4

[2 marks]

Number of items, n,
made in 1 hour

Time, t, (minutes)
to make one item
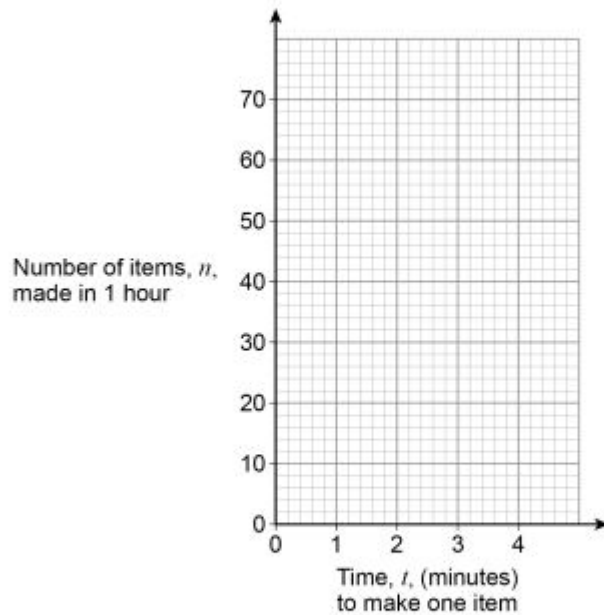
10 (b)   The machine takes 3 minutes 30 seconds to make one item.

Use your graph to estimate the value of n.

[2 marks]

Answer _____

8   On the axes, sketch the curve $y = x^3 - 2$

You **must** show the coordinates of the y-intercept.

[2 marks]
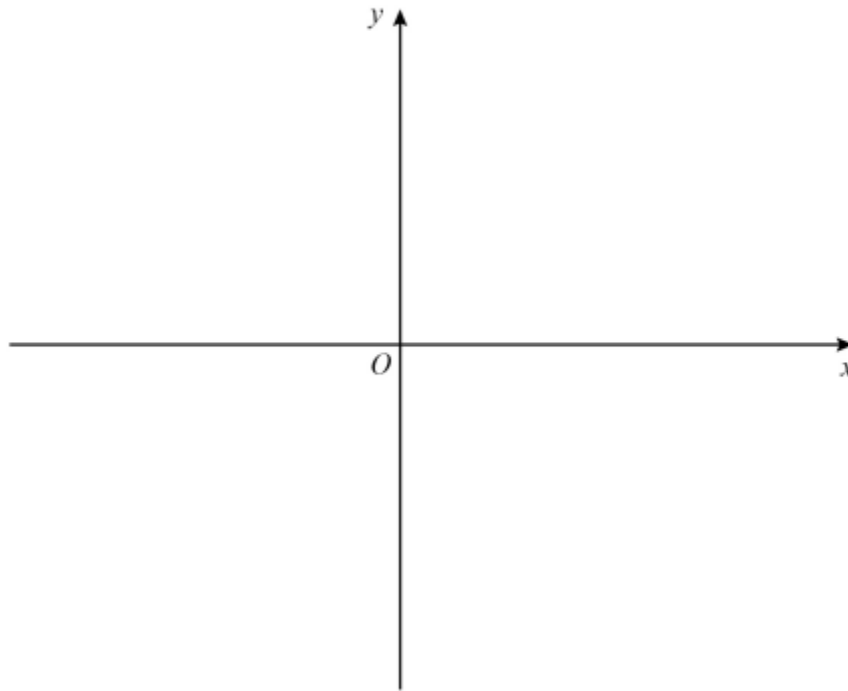
24   Here is a sketch of $y = f(x)$

The curve passes through the points

    $(-2, -10)$ $(-1, -3)$ $(0, -2)$ $(1, -1)$ $(2, 6)$
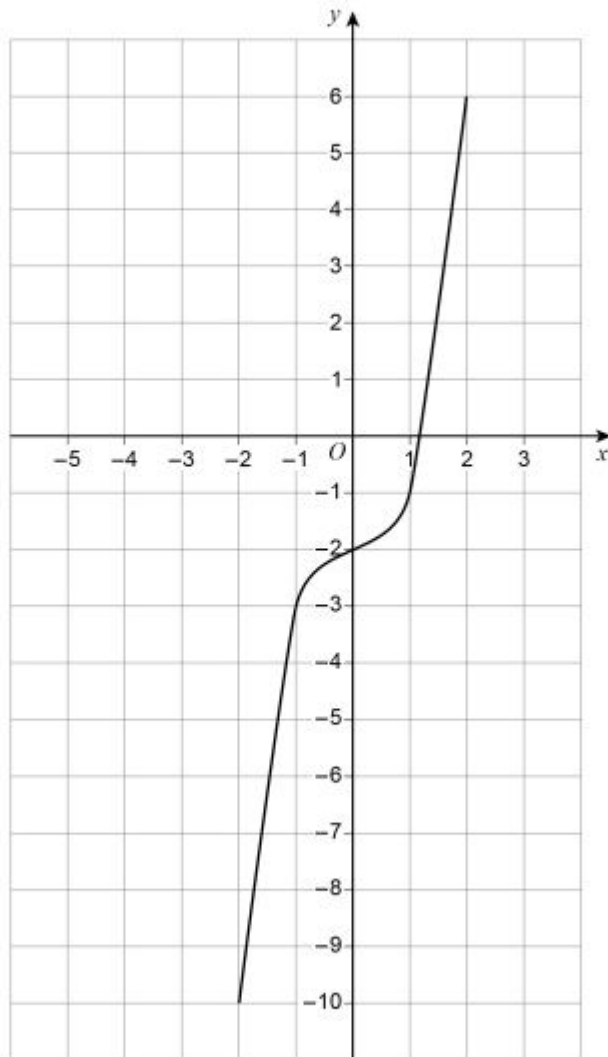
On the grid, sketch the curve $y = f(x + 2)$

[2 marks]

66.

14   Draw the graph of $y = 0.8^x$ for values of x from 0 to 6

[3 marks]

x	0	1	2	3	4	5	6
y							
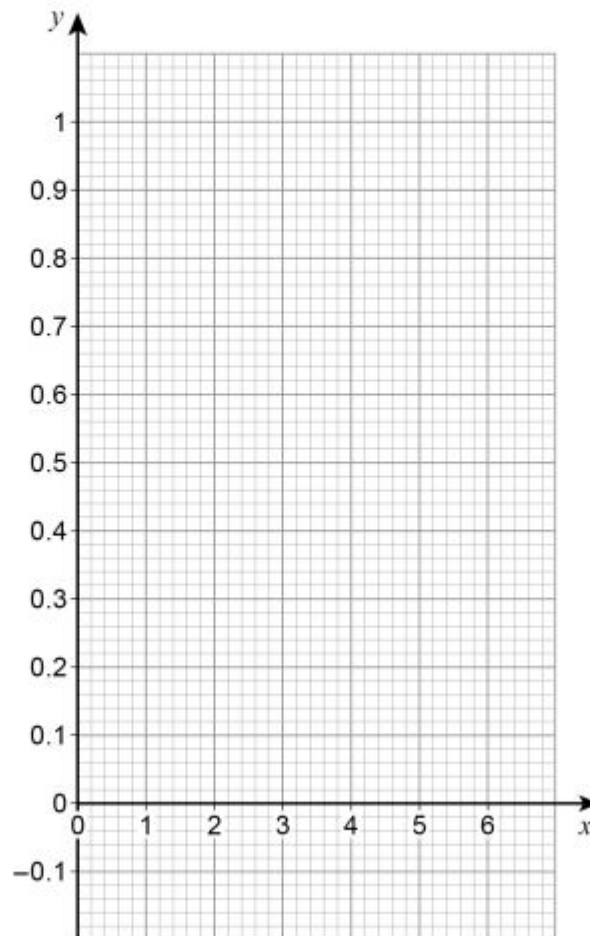
67.

6 (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

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

[2 marks]
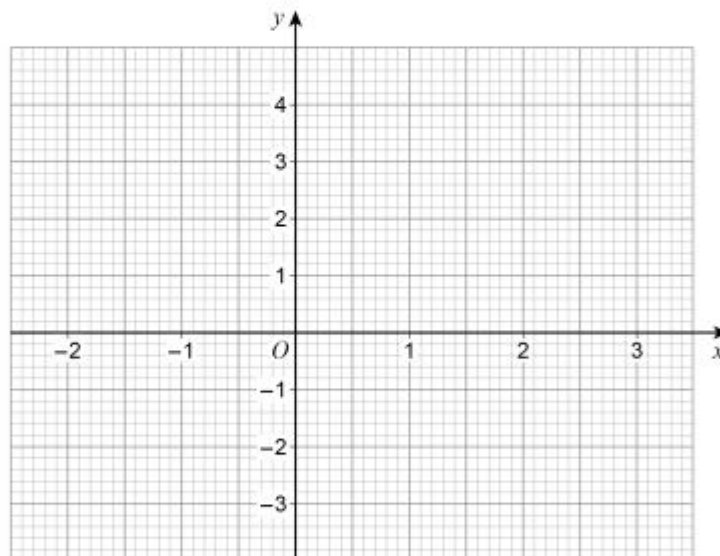
6 (c)   Write down the x-coordinate of the turning point of the graph.

[1 mark]

Answer _____

27 (a) $h(x) = \sqrt[3]{x}$ for all values of x

On the grid, draw the graph of the inverse function $y = h^{-1}(x)$ for $-2 \leqslant x \leqslant 2$

[2 marks]
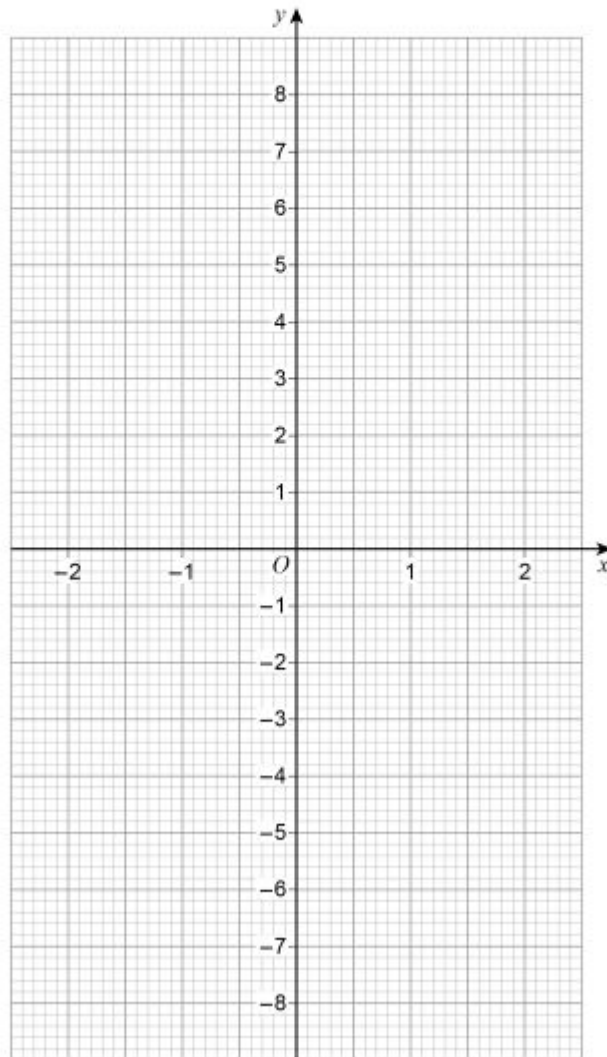
27 (b)   For all values of x

$f(x) = \sin x$

$g(x) = x + 90$

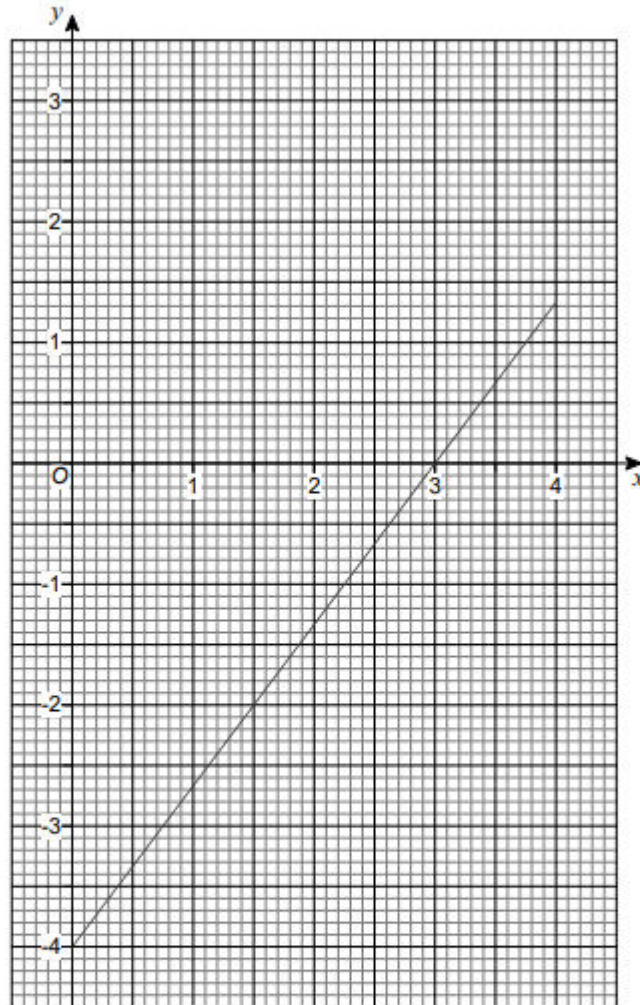On the grid, draw the graph of the composite function $y = fg(x)$ for $0° \leqslant x \leqslant 360°$

[2 marks]

_____

_____

_____

_____

_____

_____
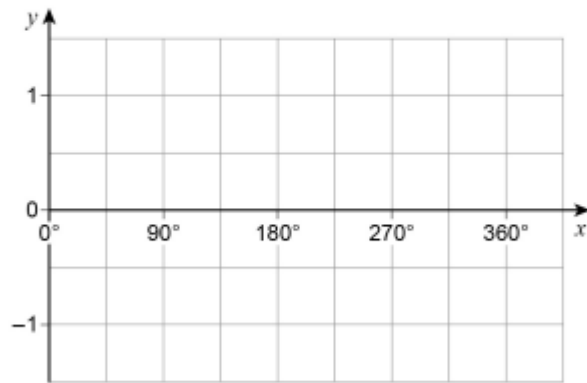
8   Here is the graph of $4x - 3y = 12$ for values of x from 0 to 4

By drawing a second graph on the grid,

work out an approximate solution to the simultaneous equations
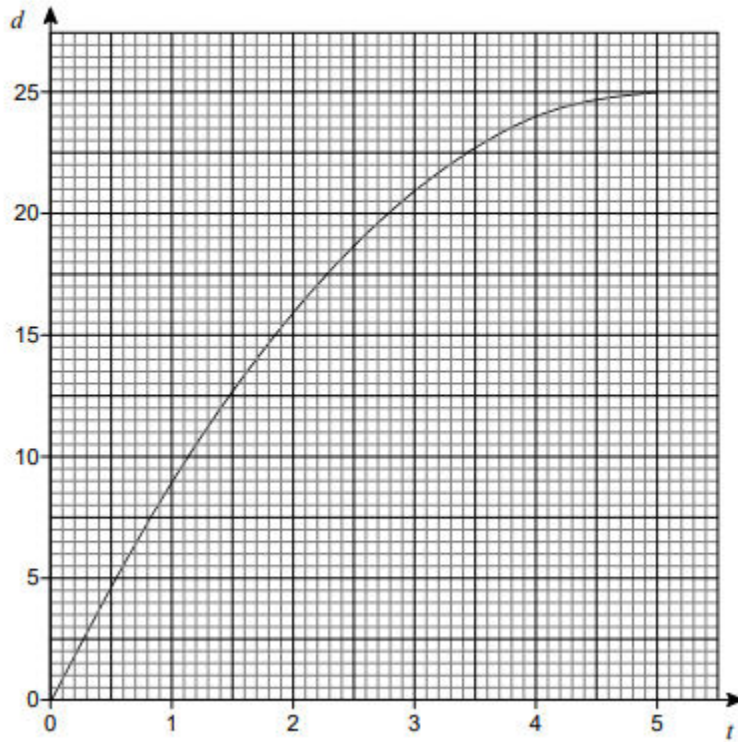
$$4x - 3y = 12 \quad \text{and} \quad 3x + 2y = 6$$

[3 marks]

Answer _____

70.

23   A container is filled with water in 5 seconds.
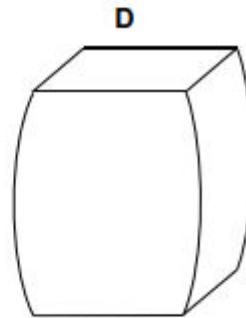
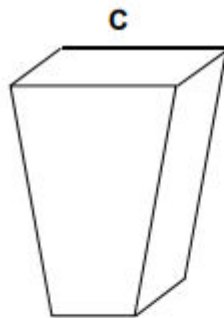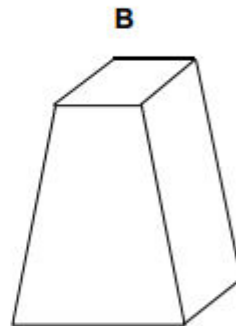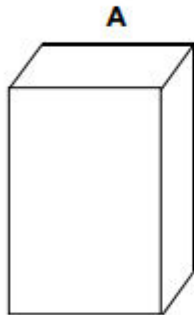The graph shows the depth of water, d cm, at time t seconds.

23 (a) The water flows into the container at a constant rate.

Which diagram represents the container?
Circle the correct letter.

[1 mark]

A

B

C

D

23 (b) Use the graph to estimate the rate at which the depth of water is increasing at 3 seconds.
You **must** show your working.

[2 marks]

_____

_____

_____

_____

Answer _____ cm/s