1. $-2 < x \leq 1$

x is an integer.

Write down all the possible values of x.

.....

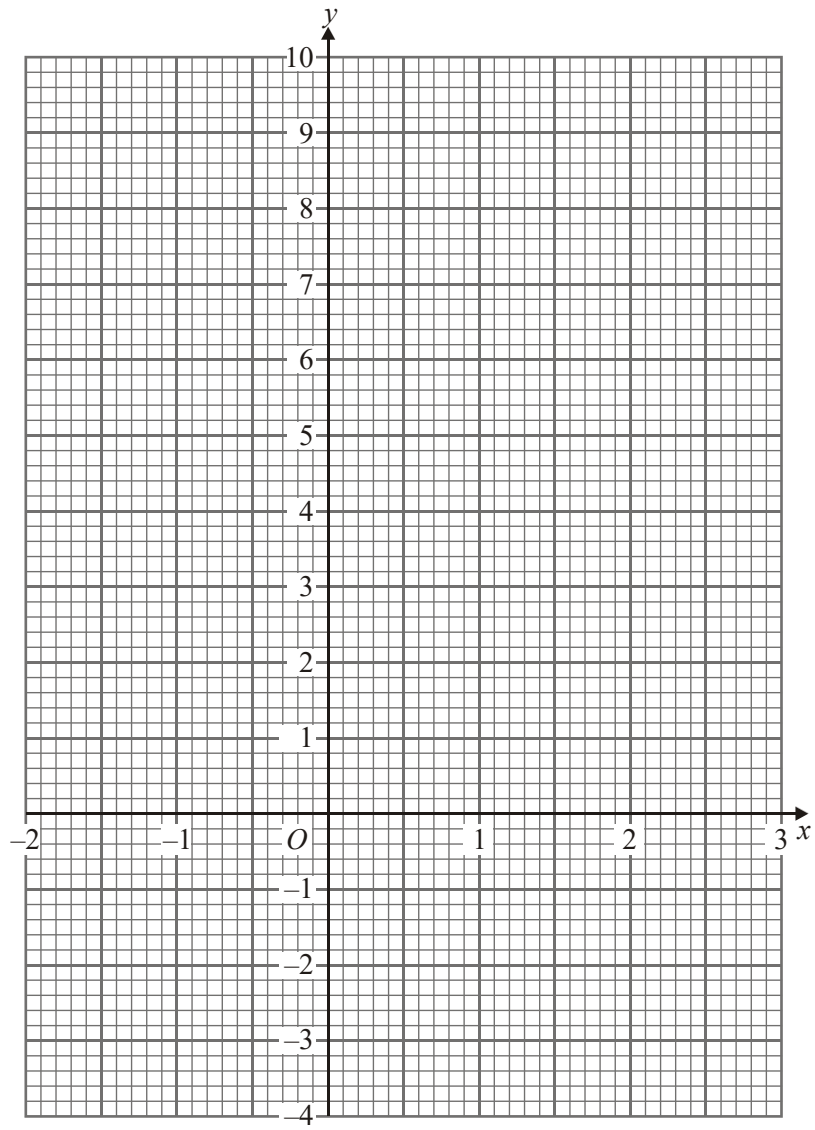
(Total 2 marks)

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

x	–2	–1	0	1	2	
y		1	3			

(2)

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



(2)

(c) Use your graph to find

(i) the value of y when $x = –1.3$

$y =$ .....

(ii) the value of x when $y = 5.4$

$x =$ .....

(2)

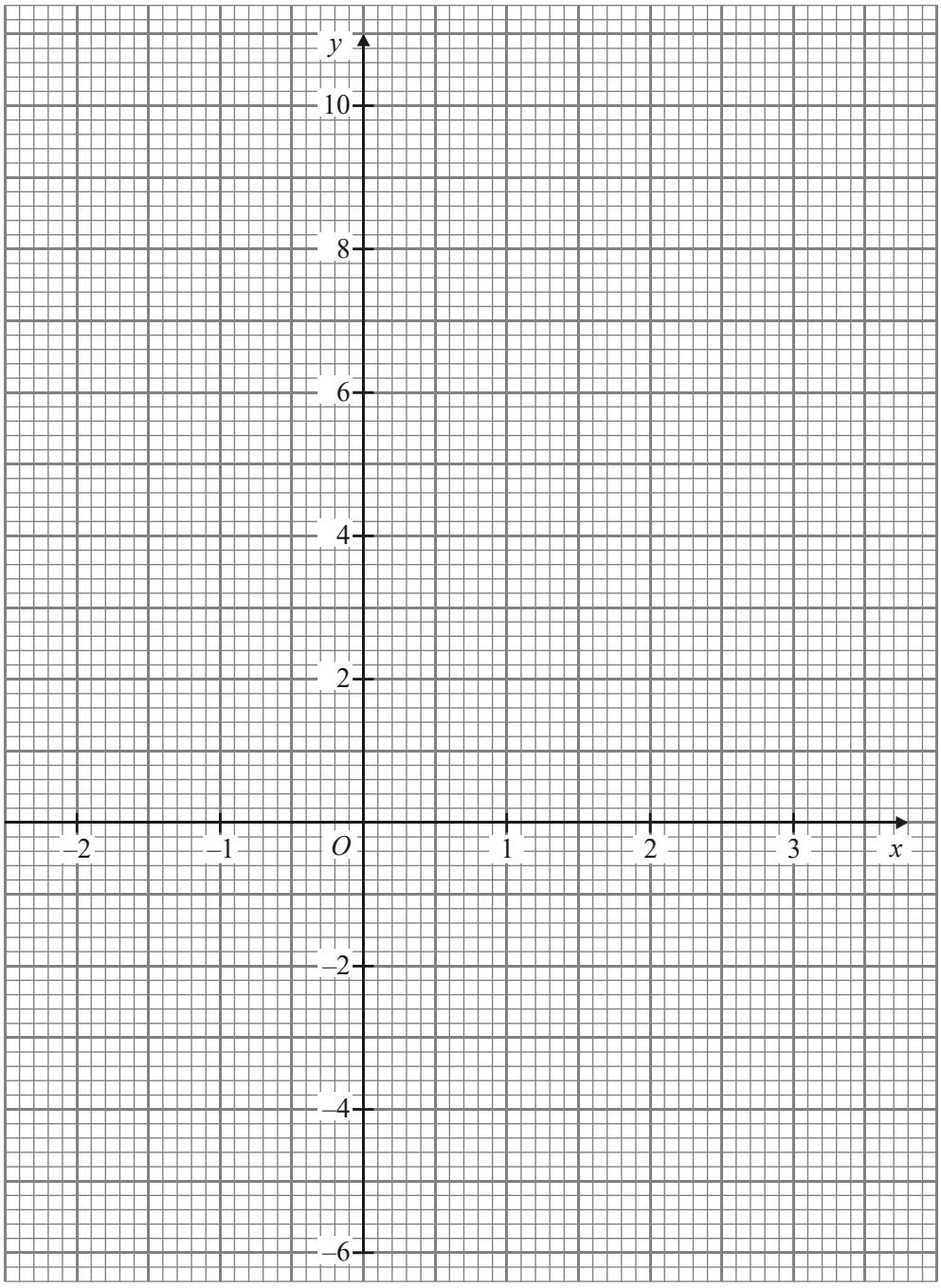
(Total 6 marks)

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

x	–2	–1	0	1	2	3
y	–5		1			

(2)

(b) On the grid, draw the graph of $y = 3x + 1$



(2)

(c) Use your graph to find

(i) the value of y when $x = -0.8$

$y =$ .....

(ii) the value of x when $y = 8.2$

$x =$ .....

(2)
(Total 6 marks)

4.

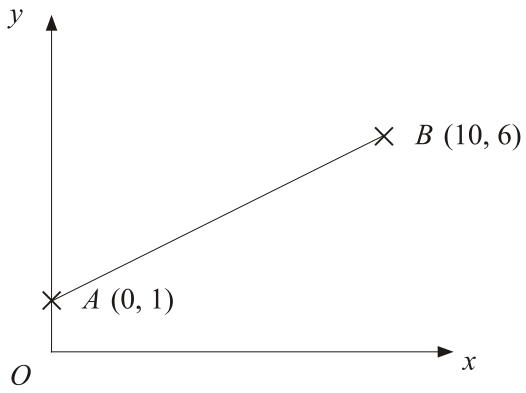


Diagram **NOT** accurately drawn

A is the point (0, 1)
B is the point (10, 6)

(a) Find the coordinates of the midpoint of AB.

(..... , ...)

(2)

The equation of the straight line through A and B is $y = \frac{1}{2}x + 1$

(b) Write down the equation of another straight line that is parallel to $y = \frac{1}{2}x + 1$

.....

(1)

(c) Write down the equation of another straight line that passes through the point (0, 1)

.....

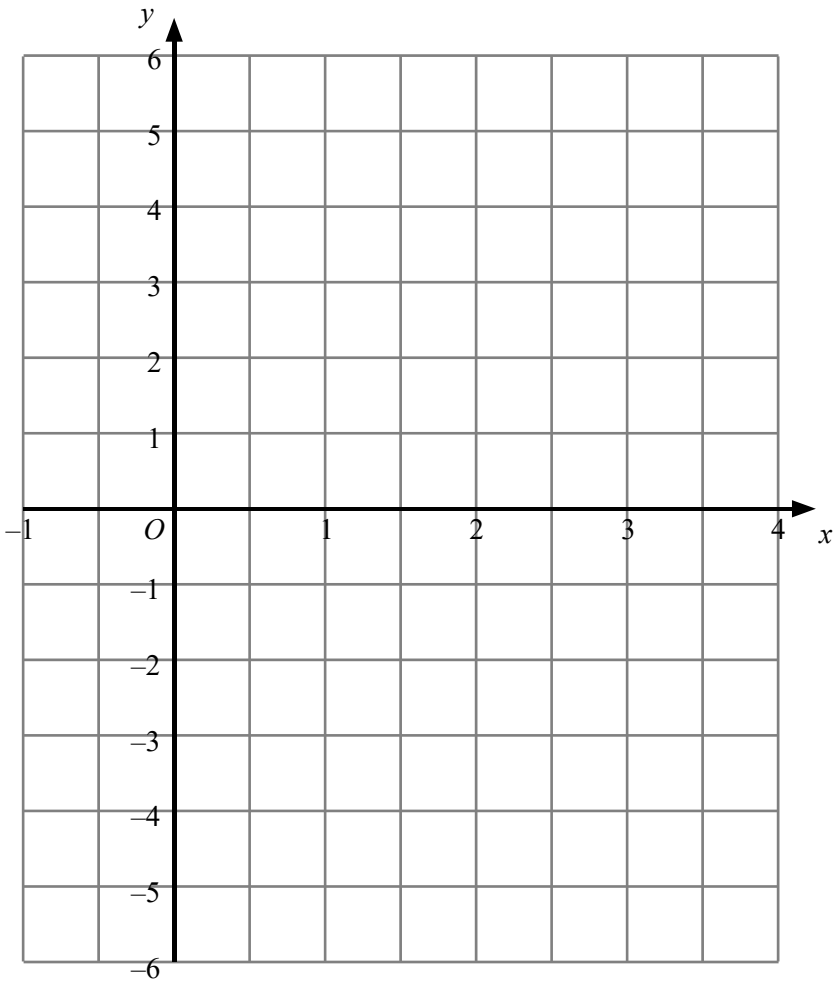
(1)
(Total 4 marks)

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

x	–1	0	1	2	3	4
y		–3	–1			

(2)

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



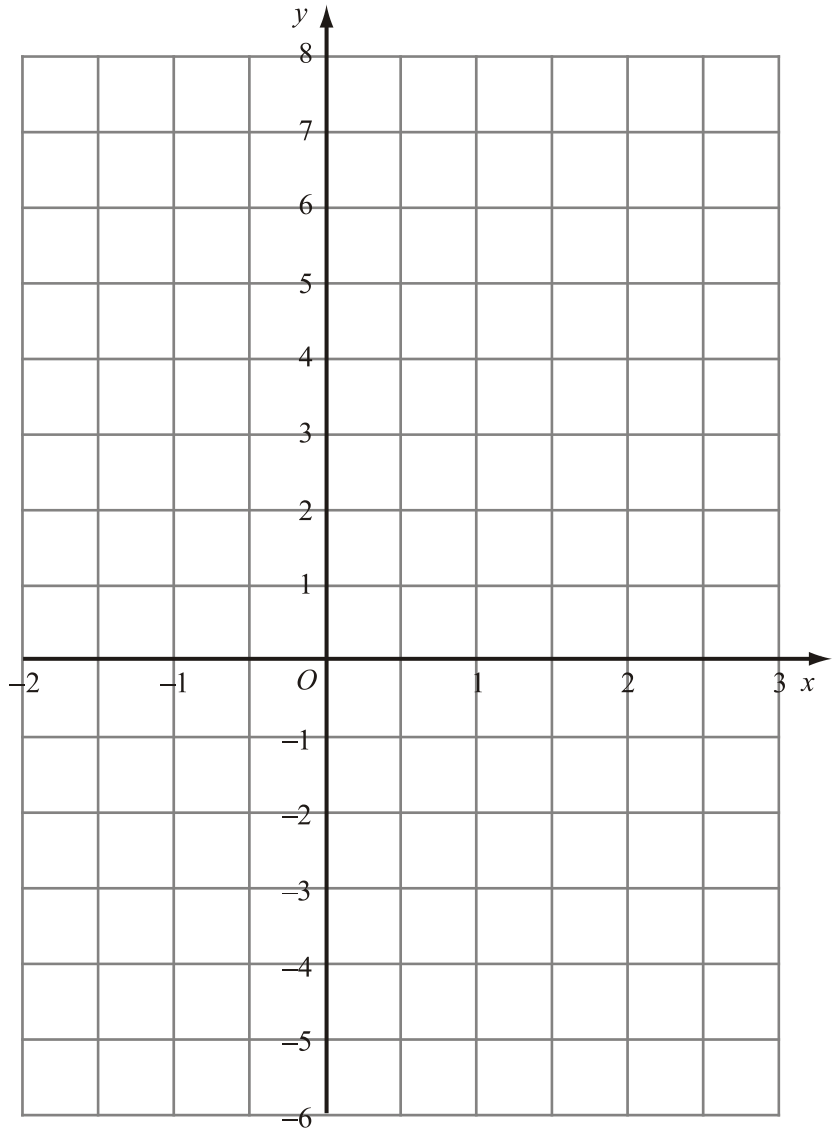
(2)
(Total 4 marks)

6. (a) Complete the table of values for $y = 2x + 1$

x	–2	–1	0	1	2	3
y		–1	1			

(2)

(b) On the grid, draw the graph of $y = 2x + 1$



(2)

(c) Use your graph to find

(i) the value of y when $x = –1.5$

$y =$ .....

(ii) the value of x when $y = 6$

$x =$ .....

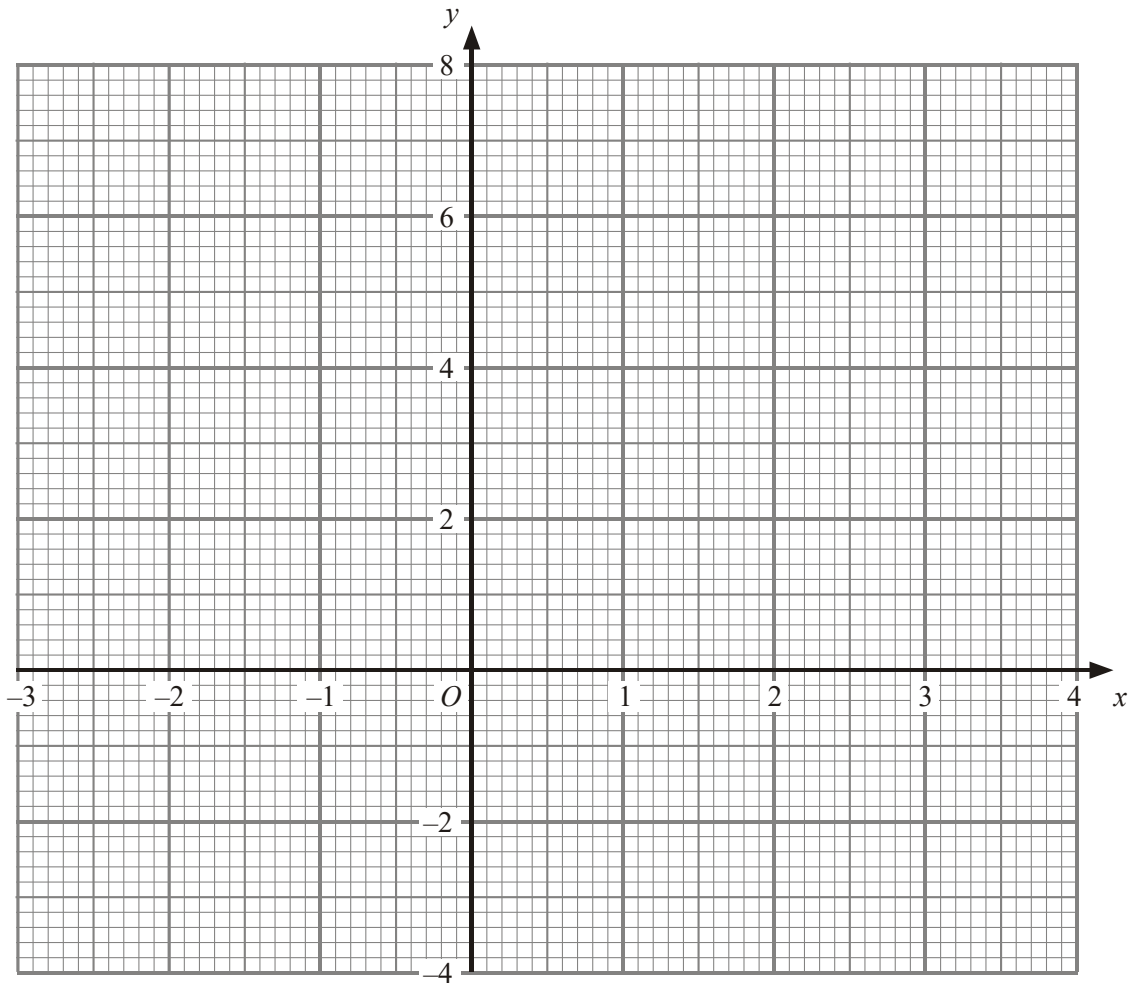
(2)

(Total 6 marks)

7. (a) Complete this table of values for $y = 2x - 1$

x	–1	0	1	2	3	4
y		–1		3	5	

(2)



(b) On the grid, draw the graph of $y = 2x - 1$

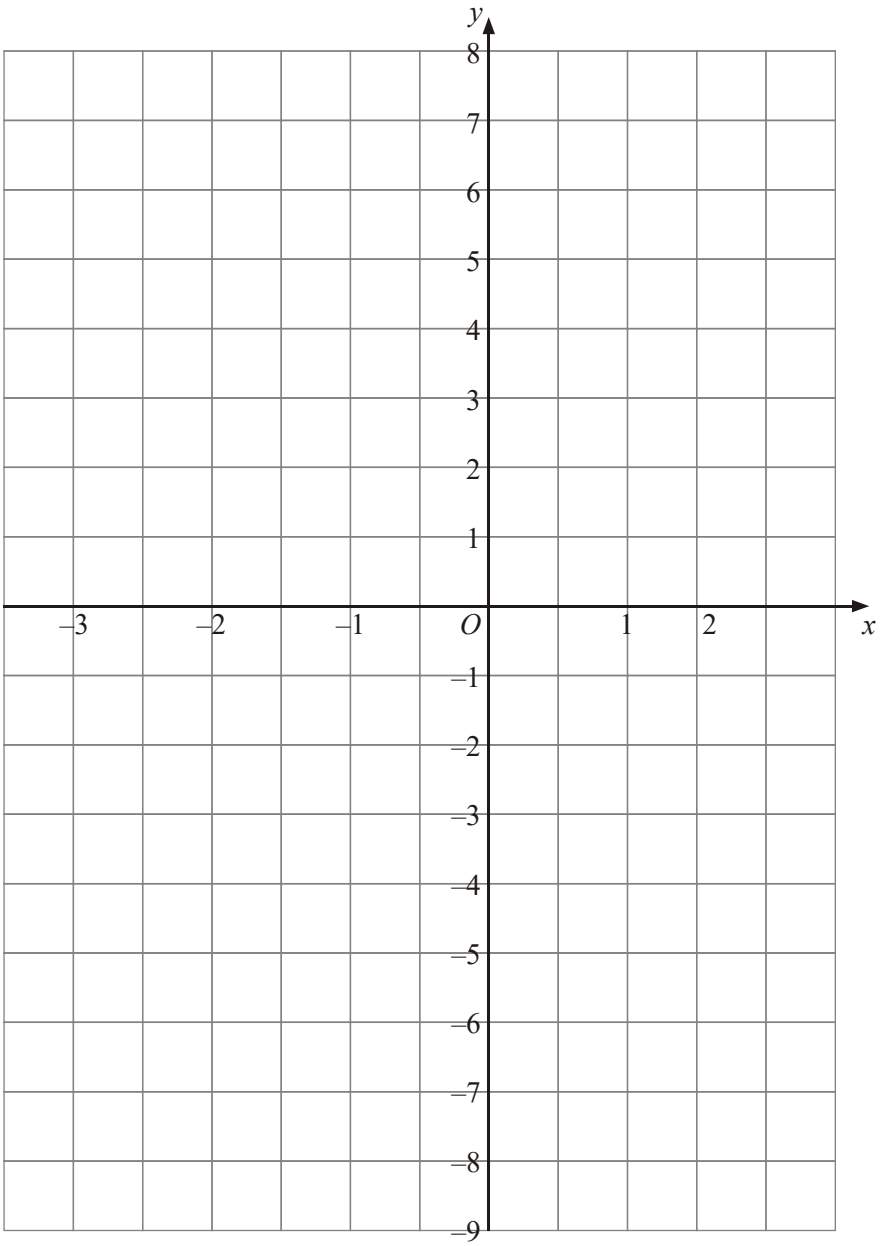
(2)
(Total 4 marks)

8. (a) Complete the table of values for $y = 3x + 1$

x	–3	–2	–1	0	1	2
y	–8		–2			

(2)

(b) On the grid, draw the graph of $y = 3x + 1$



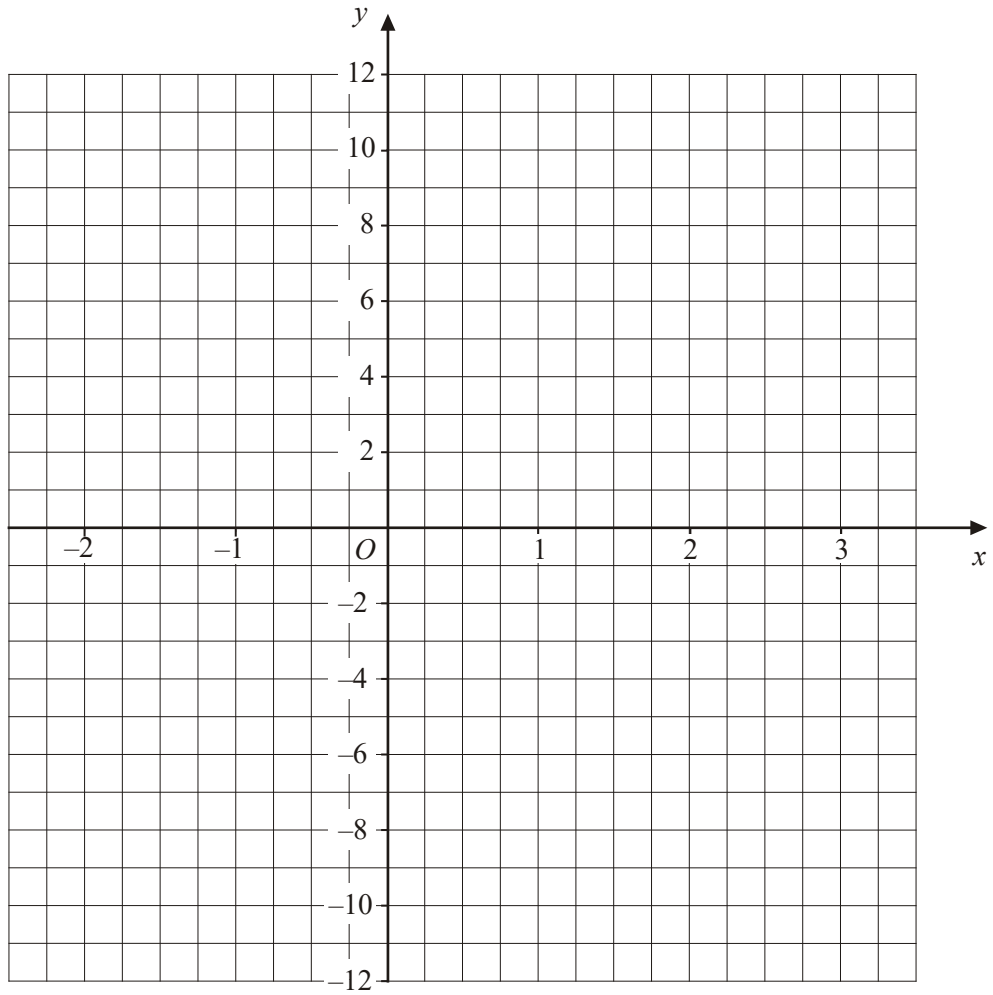
(2)
(Total 4 marks)

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

x	−2	−1	0	1	2	3
y	−11		−3			9

(2)

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



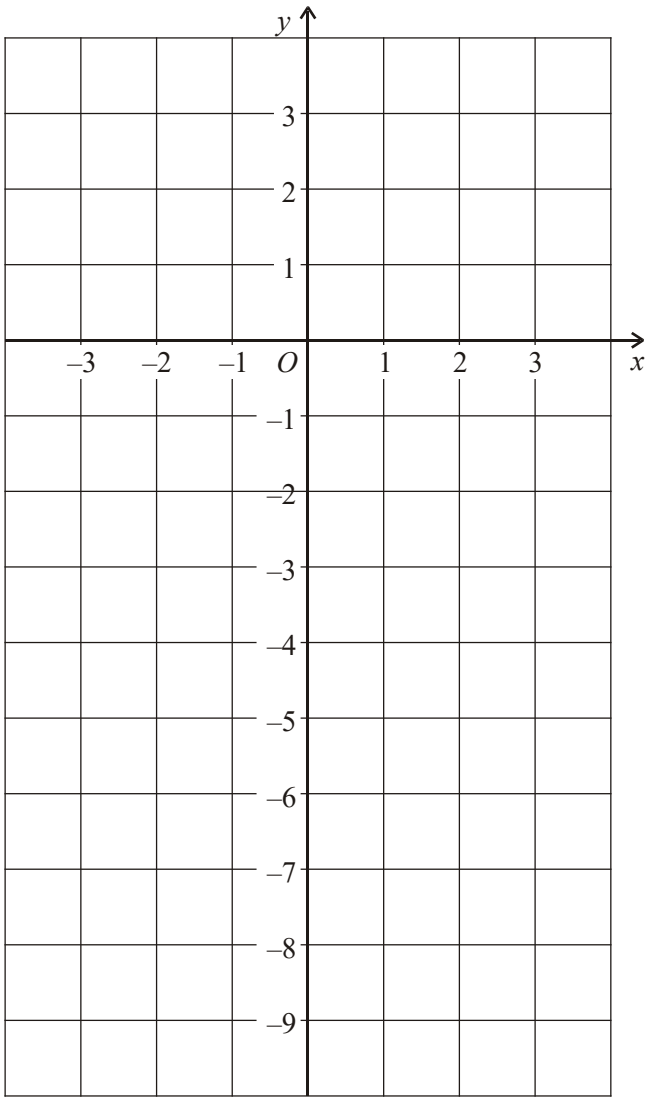
(2)
(Total 4 marks)

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

x	–3	–2	–1	0	1	2	3
y	–9		–5				3

(2)

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



(2)
(Total 4 marks)

11. Find the gradient of the straight line with equation $5y = 3 - 2x$.

.....

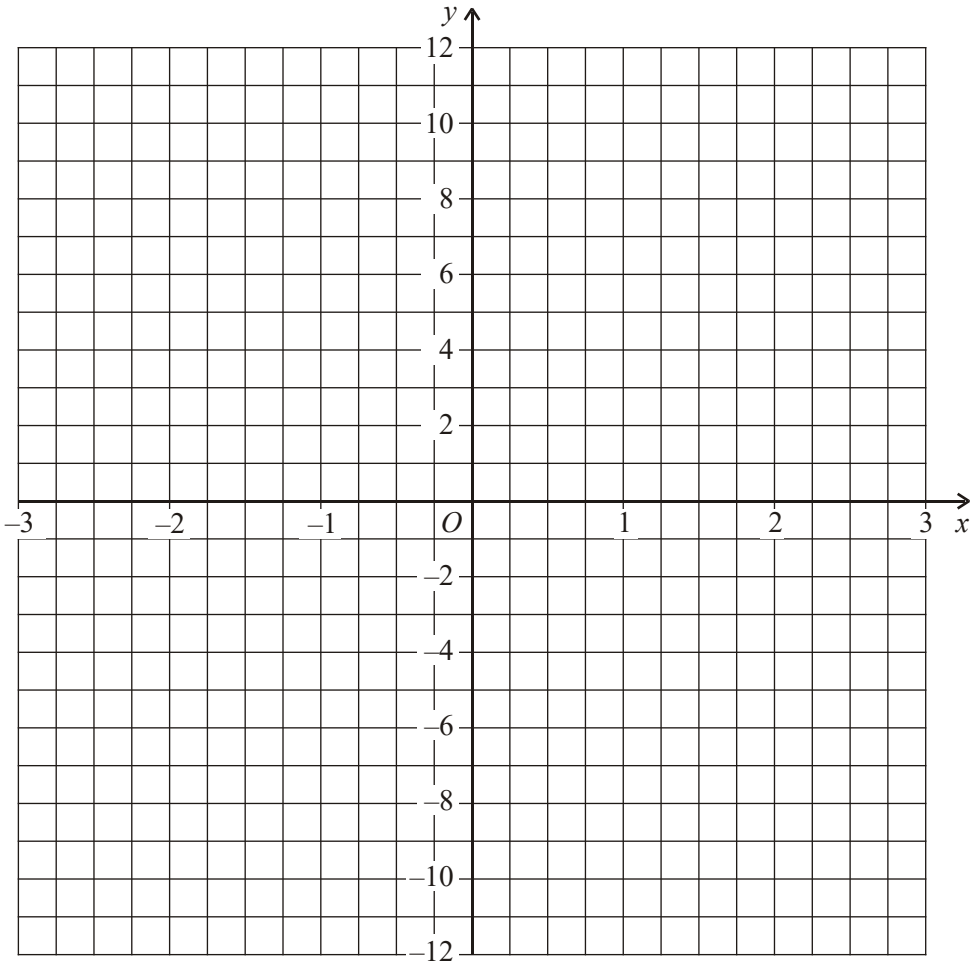
(Total 2 marks)

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

x	–3	–2	–1	0	1	2	3
y	–11		–5				7

(2)

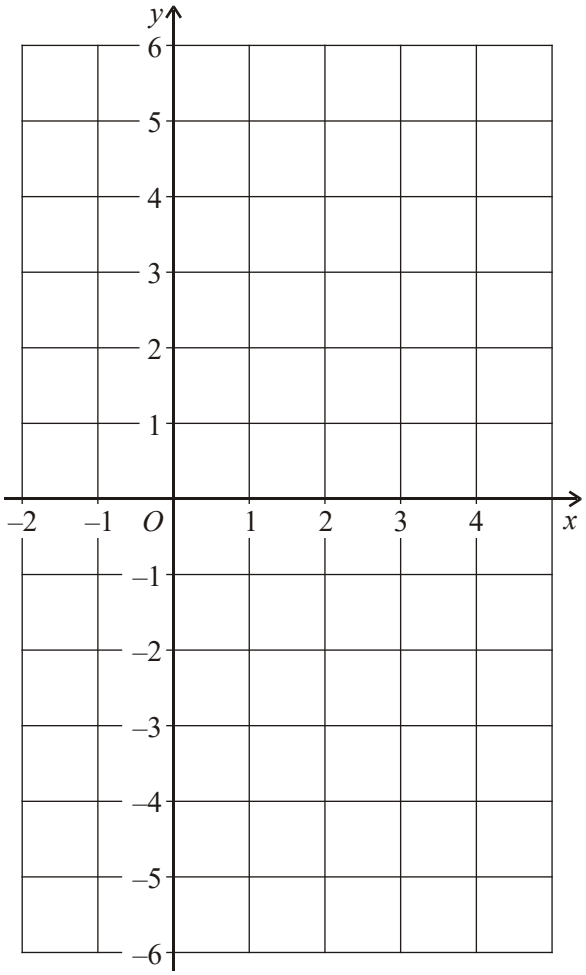
(b) On the grid below, draw the graph of $y = 3x - 2$



(2)
(Total 4 marks)

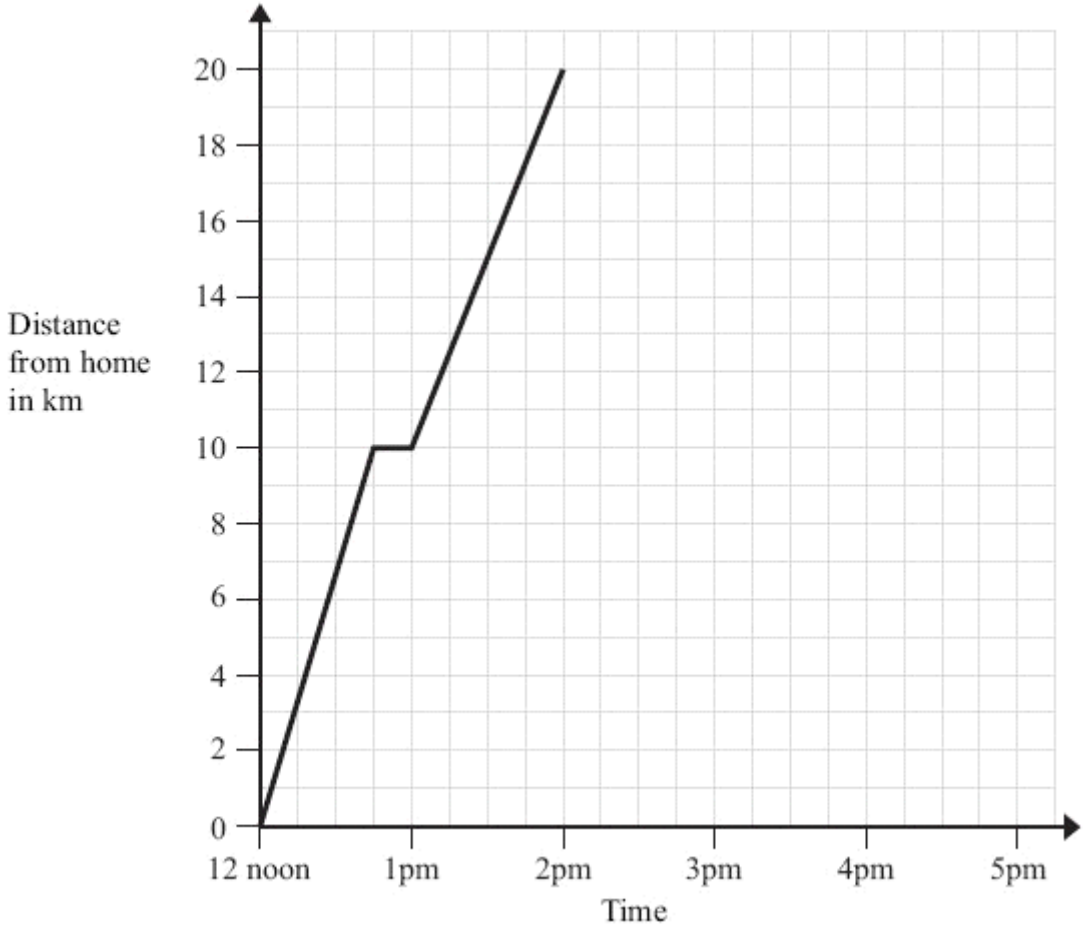
13. On the grid, draw the graph of $y = 2x - 3$

Use values of x from $x = -1$ to $x = 4$



(Total 3 marks)

14. A man left home at 12 noon to go for a cycle ride.
The travel graph represents part of the man's journey.



At 12.45pm the man stopped for a rest.

(a) For how many minutes did he rest?

…… minutes

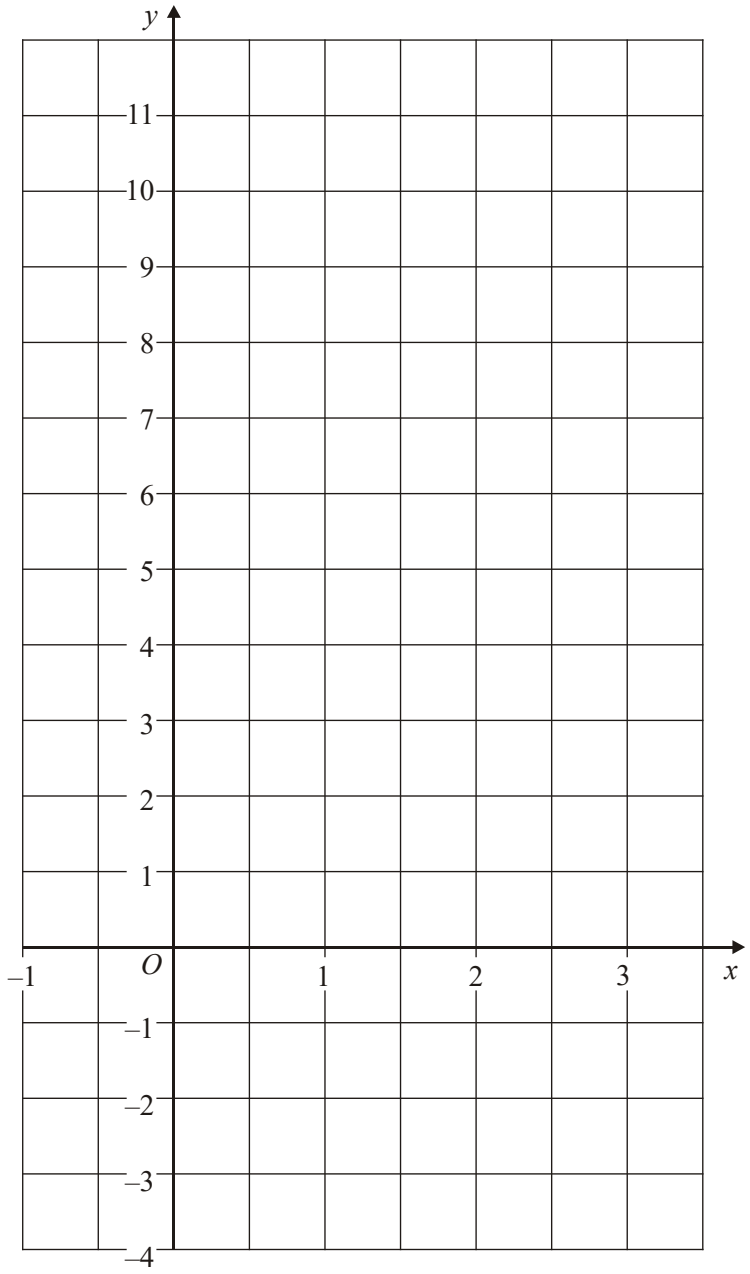
(1)

The man stopped for another rest at 2pm.
He rested for one hour.
Then he cycled home at a steady speed. It took him 2 hours.

(b) Complete the travel graph.

(2)
(Total 3 marks)

15. On the grid, draw the graph of $y = 3x + 1$



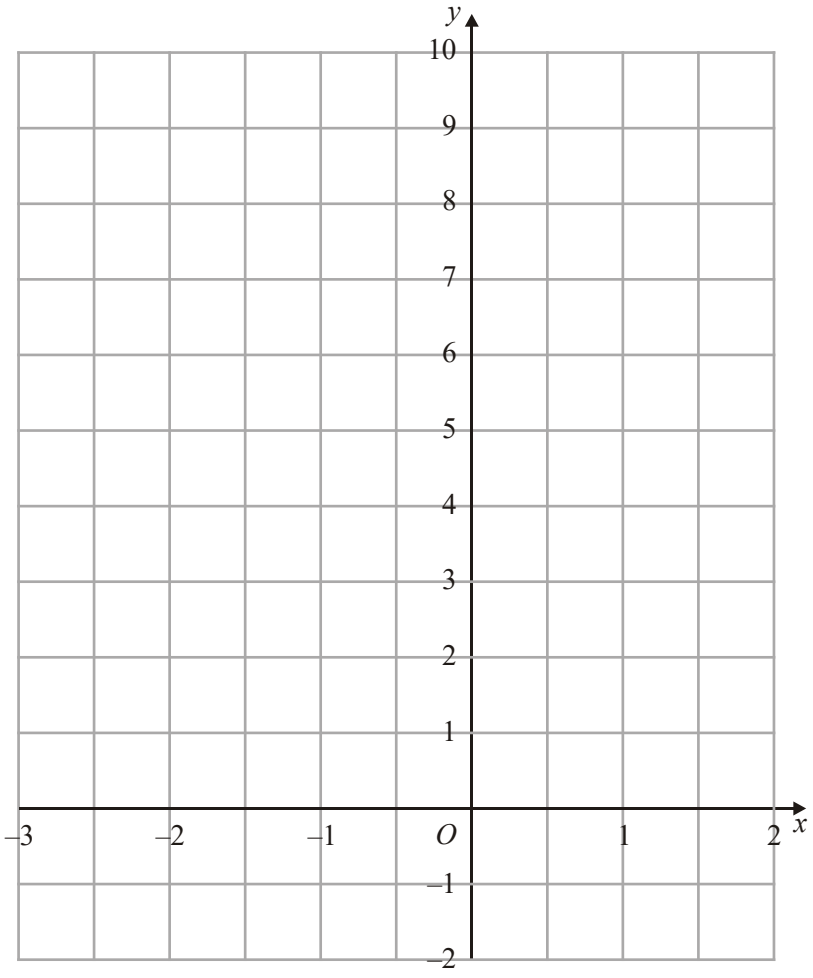
(Total 3 marks)

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

x	–3	–2	–1	0	1	2
y		1		5		

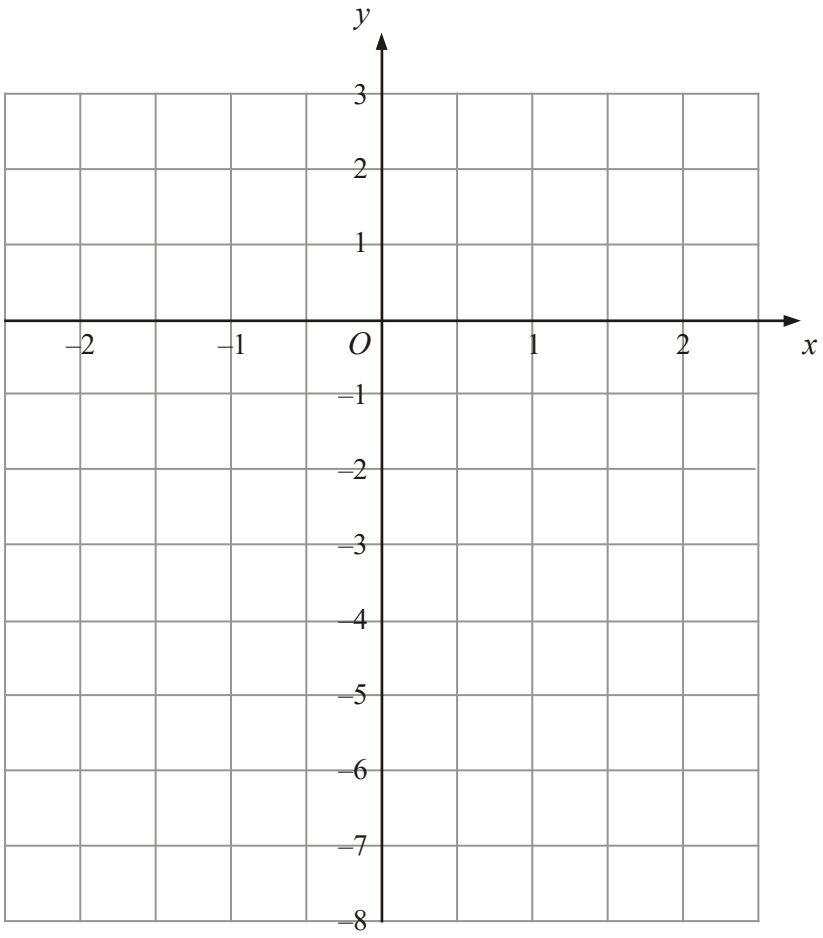
(2)

(b) On the grid, draw the graph of $y = 2x + 5$



(2)
(Total 4 marks)

17.



On the coordinate grid, draw the graph of $y = 2x - 3$
Use values of x from –2 to +2

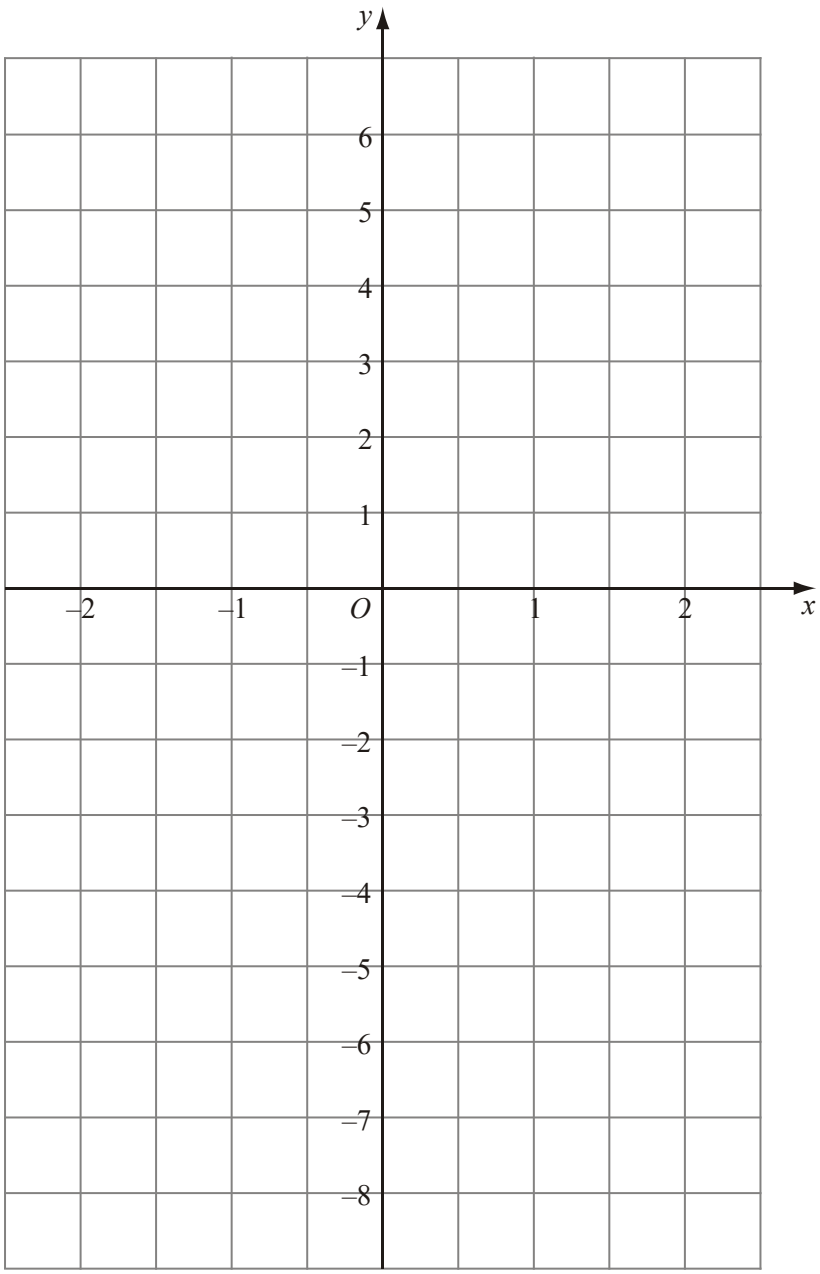
(Total 3 marks)

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

x	–2	–1	0	1	2
y		–4		2	

(2)

(b) On the grid, draw the graph of $y = 3x - 1$



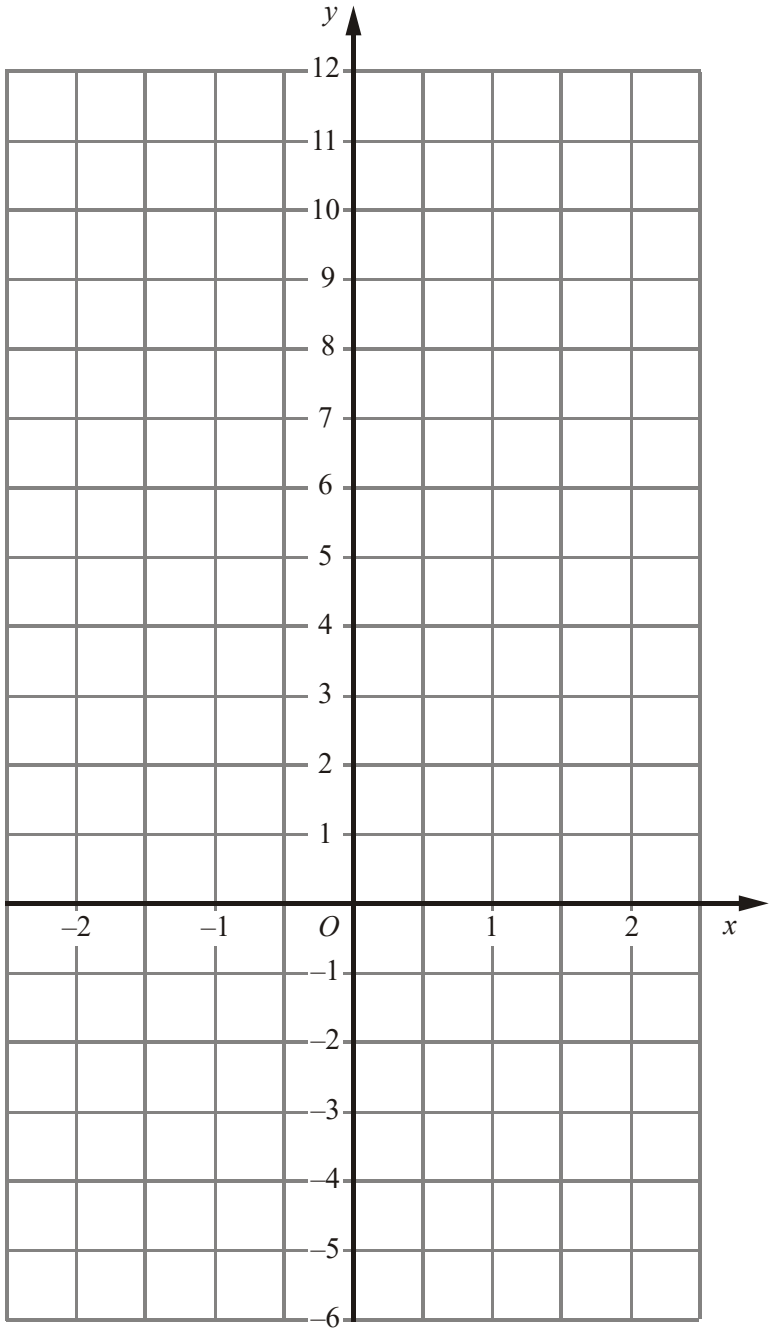
(2)
(Total 4 marks)

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

x	−2	−1	0	1	2
y		−1			11

(2)

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



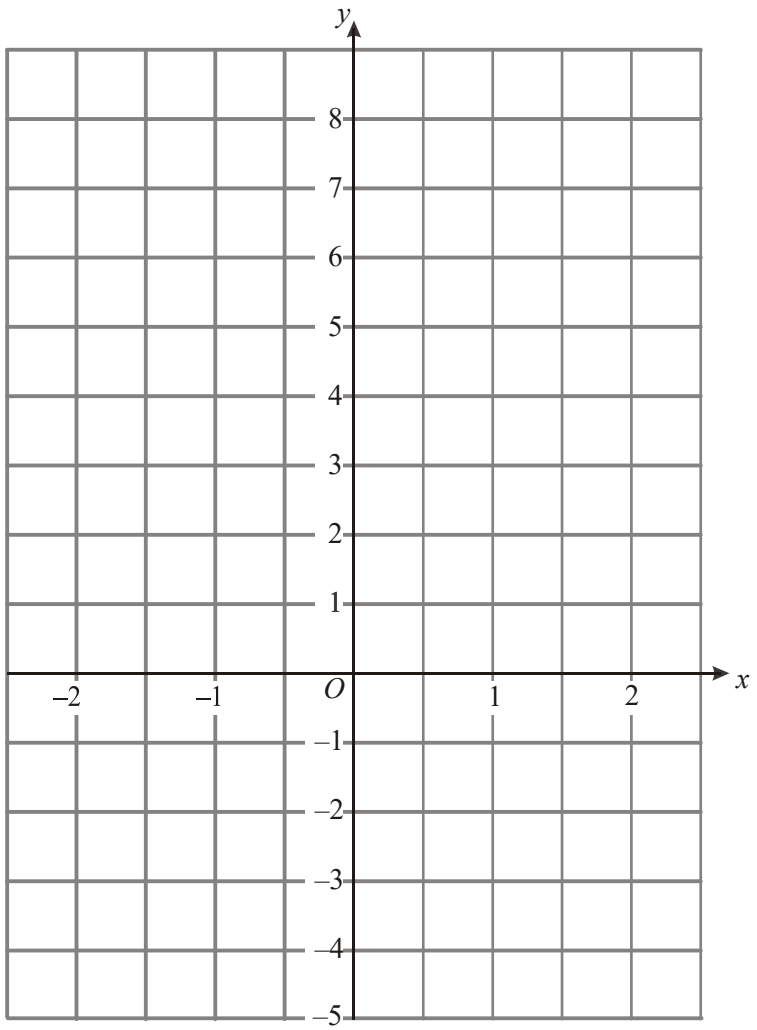
(2)
(Total 4 marks)

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

x	–2	–1	0	1	2
y		–1		5	

(2)

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

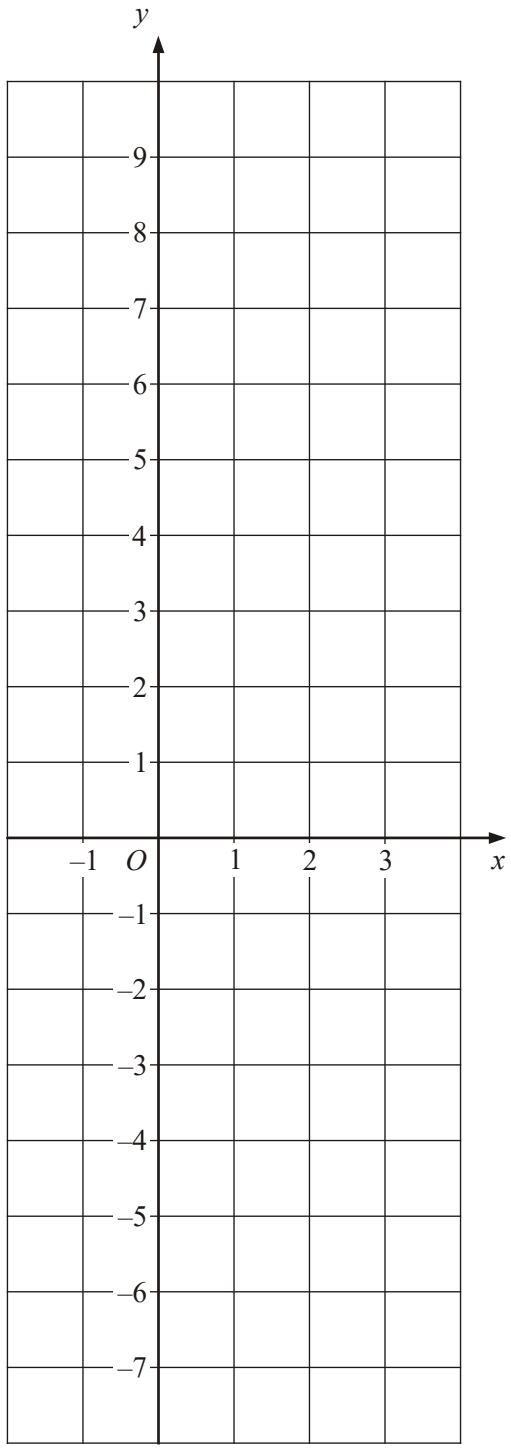


(2)
(Total 4 marks)

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

X	–1	0	1	2	3
y		–3		5	

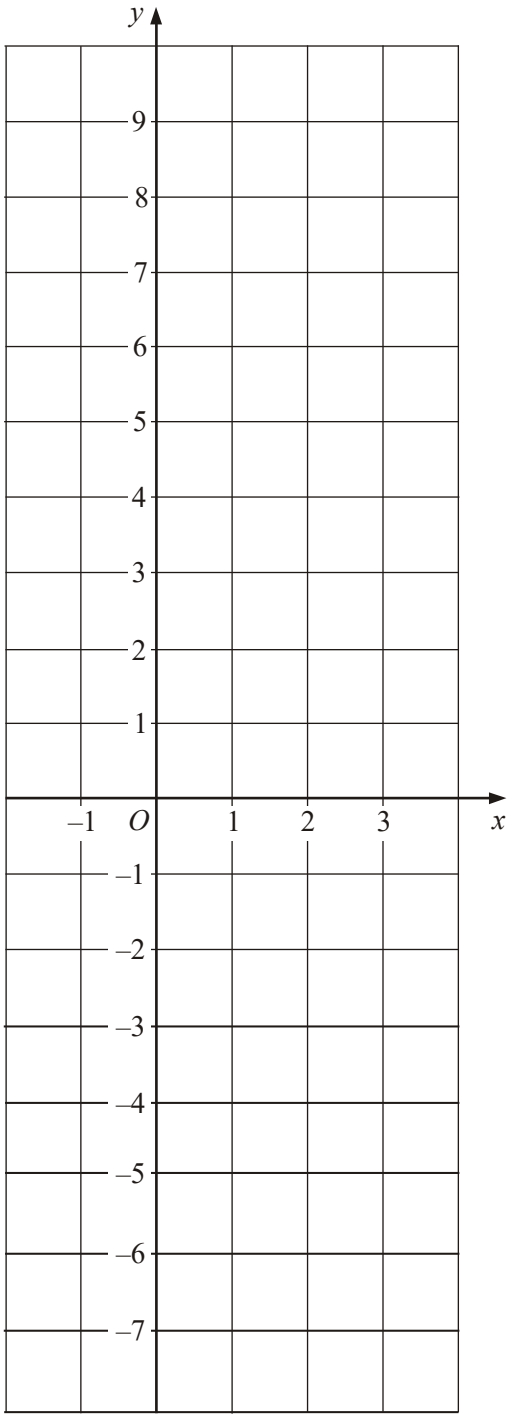
(b) On the grid, draw the graph of $y = 4x - 3$



(2)
(Total 4 marks)

22. On the grid, draw the graph of $y = 4x - 3$

Use values of x from –1 to +3



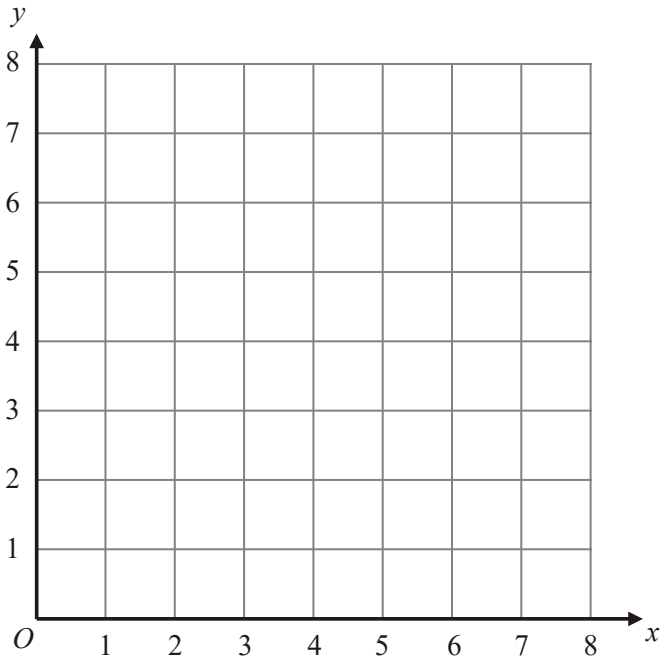
(Total 3 marks)

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

x	0	1	2	3	4	5
y		5			2	

(2)

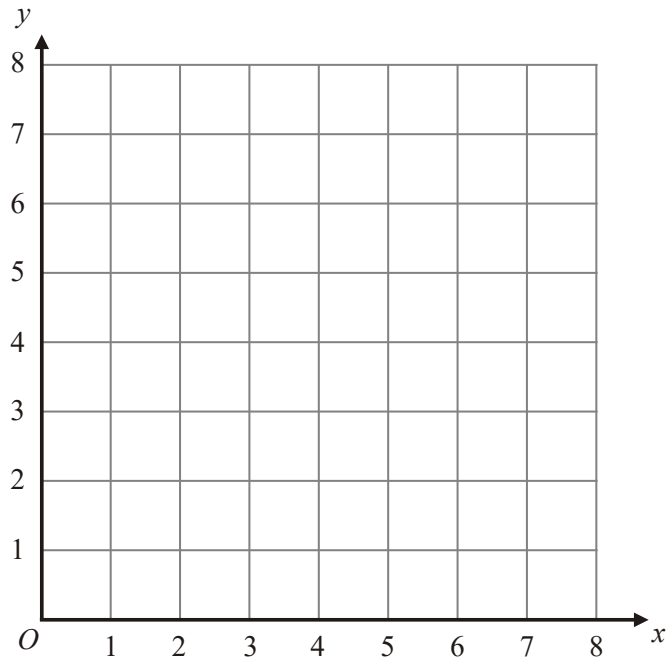
(b) On the grid, draw the graph of $x + y = 6$



(2)
(Total 4 marks)

24. On the grid, draw the graph of $x + y = 6$

Use values of x from $x = 0$ to $x = 6$



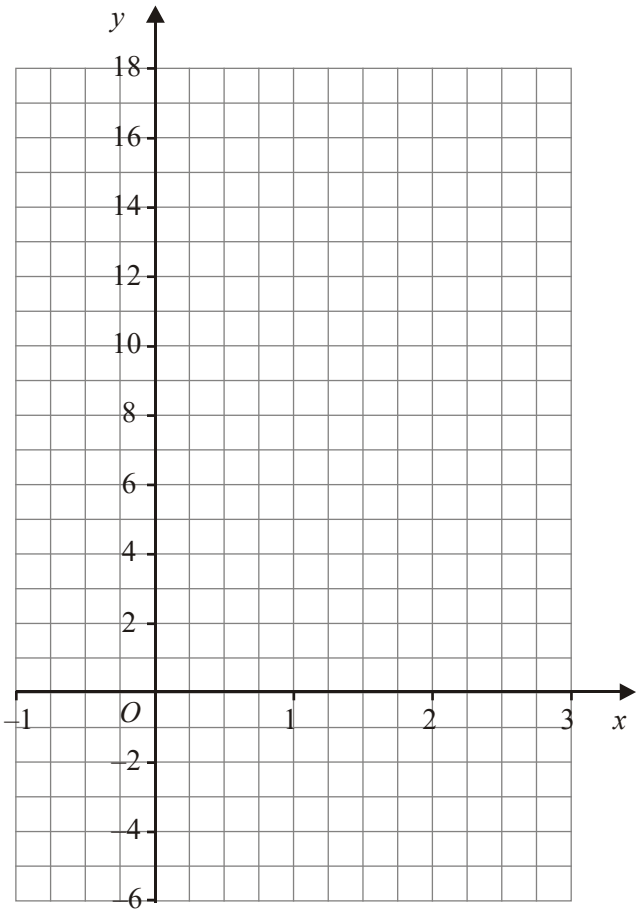
(Total 3 marks)

25. (a) Complete the table of values for $y = 5x + 1$

x	−1	0	1	2	3
y		1			16

(2)

(b) On the grid, draw the graph of $y = 5x + 1$



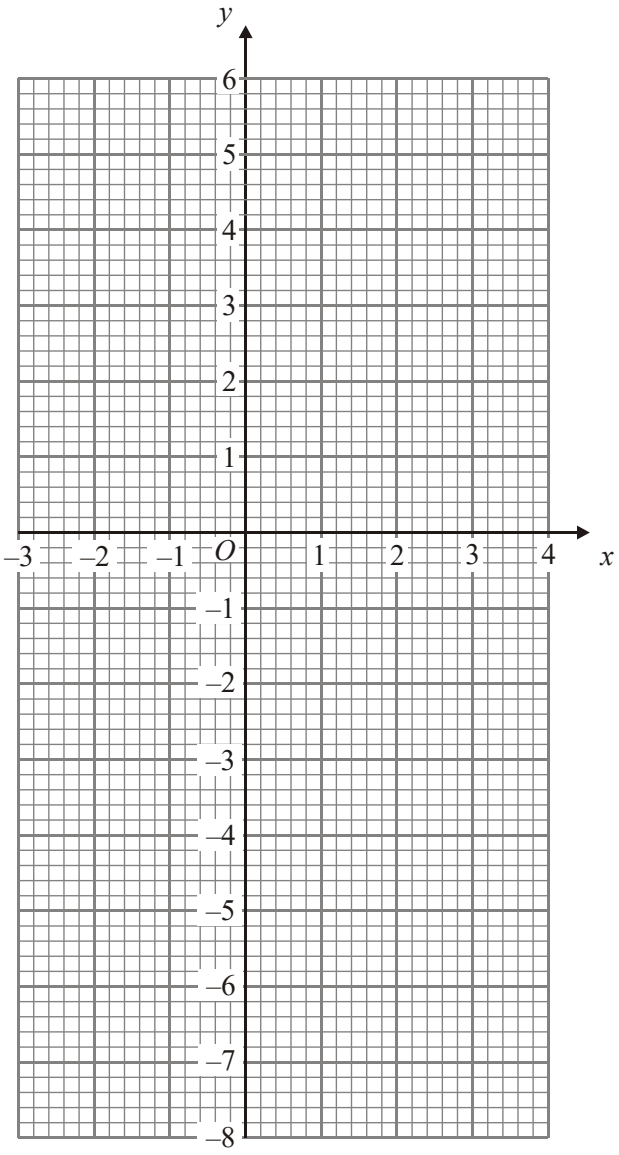
(2)
(Total 4 marks)

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

x	−2	−1	0	1	2	3
y	−7		−3	−1		3

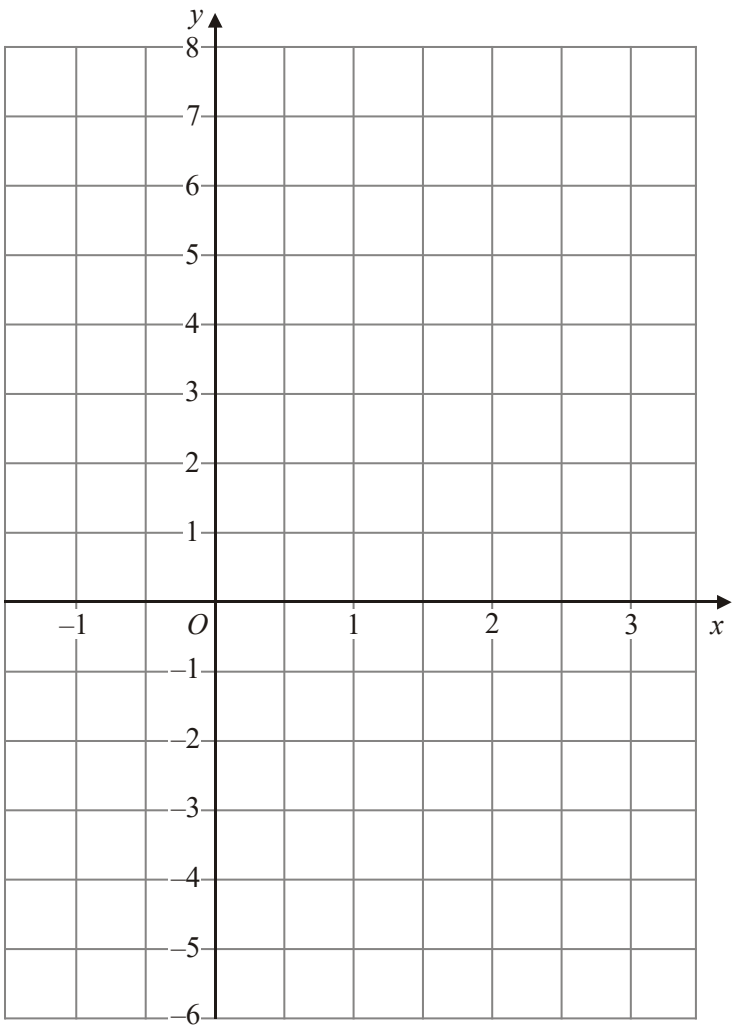
(2)

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



(2)
(Total 4 marks)

27. Draw the graph of $y = 3x - 2$ for values of x from –1 to 3



(Total 3 marks)

1. –1, 0, 1 2

B2 for –1, 0, 1 only
(B1 for –1, 0 or 0,1 or –1, 1 or –2, -1, 0, 1 only)

[2]

2. (a) –1, (1), (3), 5, 7, 9 2

B2 cao
(B1 for 2 values)

(b) Graph 2

B1 ft for plotting points ± 1/2 square
B1 cao for line between x = –2 and x = 3

(c) (i) 0.4 2

B1 for 0.4 or ft from single straight line with positive gradient

(ii) 1.2

B1 for 1.2 or ft from single straight line with positive gradient

[6]

3. (a) $_{(-5)}$–2, $_{(1)}$ 4 7 10 2

B2 cao
(B1 for at least 2 correct missing values)

(b) Graph 2

B1 ft for plotting 4 points ± 1sq
B1 cao for line between x = –2 and x = 3

(c) (i) –1.4

B1 for –1.4 or ft straight line segment with positive gradient (±1 sq)

(ii) 2.4 2

B1 for 2.4 or ft straight line segment with positive gradient (±1 sq)

[6]

4. (a) (5, 3½) 2

B1 for x = 5
B1 for y = 3½

(b) 1

B1 for y = ½x + k, k ≠ 1, oe

(c) 1

B1 for $y = mx + 1$, $m \neq ½$, oe
or $x = 0$

[4]

5. (a) −5 (−3) (−1) 1 3 5 2

B2 cao
(B1 for any 2 or 3 correct)

(b) Points plotted
= Line 2

B2 for line from (−1, −5) to (4, 5)
(B1 ft for plotting at least 5 "points")

[4]

6. (a) –3 (–1) (1) 3 5 7
= **–3**, 3, **5, 7** 2

B2 all correct
(B1 2, 3 correct)

(b) (–2, –3), (–1, –1), (0, 1), (1, 3), (2, 5), (3, 7)
line 2

B2 cao for line from $x = –2$ to $x = 3$
(B1 plotting at least 5 points crectly or single line passing through (0, 1) or single line of gradient 2)
The six possible points are:
(–2, –3), (–1, –1), (0, 1), (1, 3), (2, 5), (3, 7)

(c) (i) –2

B1 y= –2 or ft from line segment

(ii) 2.5 2

B1 x= 2.5 or ft from line segment

[6]

7. (a) –3,…, 1,…., …., 7 2

B2 for all values correct
(B1 for 2 values correct)

(b) 2

B2 cao for line between x = –1 and x = 4
B1 ft for 4 points correctly plotted ± 1 (2mm sq) or for a line with gradient 2 or for a line passing through (0, –1)

[4]

8. (a) (–8), –5, (–2), 1, 4, 7 2

B2 for all 4 values
(B1 for any 2 correct)

(b) Points + line
Correct line 2

B2 cao for correct line between x = –3 and x = 2
(B1 ft for plotting 4 points correctly or for a line with gradient 3 or for a line passing through (0, 1))

[4]

9. (a)

x	−2	−1	0	1	2	3
y	−11	**−7**	−3	**1**	**5**	9

2

B2 all 3 correct
(B1 for 1 or 2 correct)

(b) Graph 2

B2 for correct line between x = –2 and x = 3
(B1ft for plotting 5 of their points correctly or for a straight line with gradient 4 or for a straight line passing through (0, –3))

[4]

10. –7, –3, –1, 1 4

B2 for all 4 correct
(B1 for 2 or 3 correct)
B2 for correct straight line
(B1 (ft) for all points plotted correctly)

[4]

11. $\frac{-2}{5}$ oe

$y = \frac{3}{5} - \frac{2}{5}x$ 2

B1 for $y = \frac{-2}{5}x$ + *constant*

B1 ft for gradient "$\frac{-2}{5}$*"*

[2]

12. (a) –8, –2, 1, 4 2

B2 for fully correct table
(B1 for 2 or 3 correct)

(b) Correct line 2

B2 for a correct line
[B1 for correct plots from their table]

[4]

13. Straight line 3

B3 for a line through 2 or more correct points (no polygons accepted)
(B2 for 2 or more correctly plotted points <u>or</u> for a line through 2 or more correct points (with extra lines/curves)
(B1 for 1 correctly plotted point <u>or</u> for a line through one correct point (integer coordinates only)
<u>Or</u> for a line of gradient 2 <u>or</u> a table of values with one correct ordered pair)

[3]

14. (a) 15 1

B1 cao for 15(± 1)

(b) 2

B1 horiz. line from (2, 20) to (3, 20)
B1 line from (3, 20) to (5, 0) or horiz. translation of it
SC: B1 for any journey ending at (5, 0)

[3]

15. *x*: –1 0 1 2 3
y: –2 1 4 7 10
correct line 3

B3 for a single straight line only, passing through any 3 of the points (–1,–2), (0,1), (1,4), (2,7), (3,10)
(B2 for 2 correct points joined with a line segment)
(B1 for 1 correct point plotted or 1 correct y-value calculated)
[sc B1 for a single line of gradient 3 if no marks awarded]

[3]

16. (a) –1, (1), 3, (5), 7, 9 2

B2 for all 4 correct
(B1 for 2 correct)

(b) correct line 2

M1 for plotting "points" (one error condoned)
A1 cao

[4]

17. 3

x	–2	–1	0	1	2
y	–7	–5	–3	–1	1

Straight line

M1 for one point correctly plotted or calculated or a straight line through one correct point
M1 for 2 points correctly plotted or calculated
A1 for correct line between –2 and 2

[3]

18. (a) –7, –1, 5 2

B2 for all values correct
(B1 for 1 or 2 values correct)

(b) Line from (–2, –7) to (2, 5) 2

B2 for straight line from (–2, –7) to (2, 5)
*[B1ft for at least **four** "points" correctly plotted or*
B1 for a single line of gradient 3 or B1 for a single line passing through (0, –1)]

The first B1 is for plotting at least 4 of the points quoted in their table of values. Note: Points do not have to be plotted; if the correct straight line is drawn, B2 is awarded.

Accept a freehand drawn line if it clearly passes through the correct points, within a tolerance of about 2 mm. Here we really do have to apply our professional judgment.

Ignore anything drawn outside of the range (–2, –7) to (2, 5)

[4]

19. (a) **–5 –1 3 7 11** 2

B2 for a fully correct table
[B1 for 1 or 2 correct entries in the table]

(b) Straight line drawn from (–2, –5) to (2, 11) 2

B2 for a straight line drawn from (–2, –5) to (2, 11)
[B1 ft from (a) for at least 4 'correct' plots or for a single line of gradient 4 or for a single line passing through (0, 3)]

[4]

20. (a) –4, (–1), 2, (5), 8 2

B2 for all3 extra values correct
(B1 for 1 or 2 extra values correct)

(b) 2

B2 for correct straight line for at least $-2 \leq x \leq 2$
(B1ft for at least two "points" correctly plotted)
(SC: if no marks scored in (b) then B1 for a line of gradient 3 or a line through (0,2))

[4]

21. (a) **–7** (–3) **1** (5) **9** 2

B2 for all values correct
(B1 for 1 or 2 values correct)

(b) Line from (–1, –7) to (3, 9) 2

B2 for correct line from (–1, –7) to (3, 9)
(B1 ft for 4 of their points plotted correctly)
[SC B1 for any single line through (0, –3) or any single line of gradient 4]

[4]

22. Points
(–1, –7), (0, –3), (1, 1), (2, 5), (3, 9)
Straight line of gradient 4 through (0, –3)
From (–1, –7)
To (3, 9) 3

B3 for correct straight line from (–1, –7) to (3, 9)
*[B2 for 4 or 5 points plotted correctly or for a **single** line of gradient 4 passing through (0, –3)]*
*[B1 for 2 or 3 points plotted correctly or for a **single** line of gradient 4 or for any **single** line (not horizontal) through (0, –3)]*

[3]

23. (a) 6, 4, 3, 1 2

B2 for correct values in table
(B1 for any 2 correct)

(b) graph 2

B2 for correct line
(B1 for all "points" plotted correctly) or gradient –1 or y intercept at 6

[4]

24. (0, 6), (1, 5), (2, 4), (3, 3), (4, 2), (5, 1), (6, 0)
Line 3

M1 for plotting at least two correct points (may be implied by correct answer)
A1 for line drawn through at least two points
A1 for a line from (6, 0) to (0, 6)
(B2 for plotting three correct points /
B1 for plotting two correct points)
SC B1 for line through (0, 6) or for gradient of –1

[3]

25. (a) –4, (1), 6, 11, (16) 2

B2
(B1 for 1 correct entry)

(b) Straight line 2

M1 for plotting at least 4 of 'their points' correctly
A1 for correct straight line for $-1 \leq x \leq 3$
S.C. B1 for line of gradient 5 or y-intercept 1 on y axis if M0 above

[4]

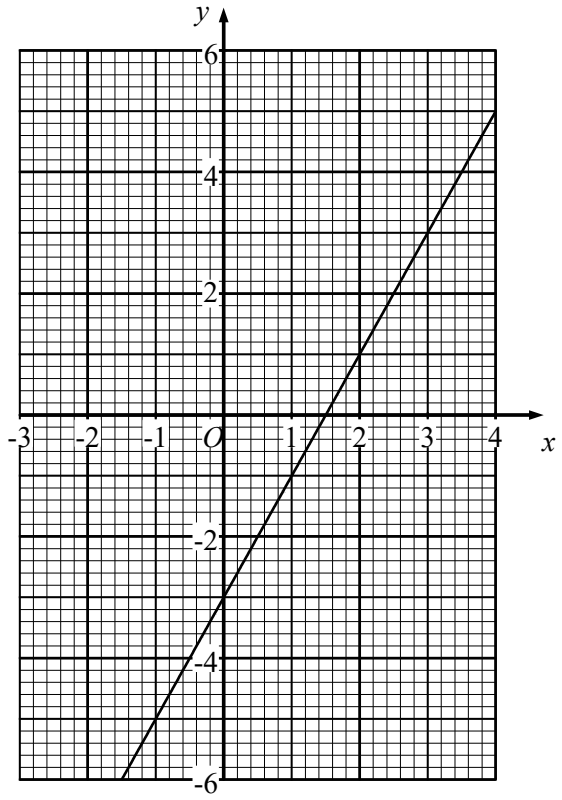
26. (a)

x	−2	−1	0	1	2	3
y	−7	**−5**	−3	−1	**1**	3

Table 2

B2 for 2 correct entries
(B1 for1 correct entry)

(b)



2

B2 for straight line from (–2, –7) to (3, 3)
(B1 for 5 of their points correctly plotted
or *single straight line passing through (0, –3) from x = –2 to +3*
or *for a straight line with gradient 2 from x = –2 to +3*
or *correct straight line that passes through 3 correct points)*

[4]

27.

x	–1	0	1	2	3
y	–5	–2	1	4	7

Straight line 3

M2 for two correct points plotted or a correct straight line which does not cover the range x = –1 to x = 3
(M1 for one point correctly plotted or calculated or a straight line through one correct point)
A1 for correct line between –1 and 3
OR
M1 for line with correct gradient
M1 for line with correct y intercept
A1 for correct line between –1 and 3

[3]

1. Mathematics A

Paper 3

Most candidates gained at least 1 mark in this question, though attempts were not quite as good as in previous years. There was clear confusion between ≤ and <.

Paper 5

Almost all candidates gained some credit in this inequality question. The main error was the omission of 0. Even some high-grade candidates believed that 0 was not an integer.

Mathematics B

Paper 16

The majority of candidates gained 1 mark here, usually for listing just two possible values of x. –1, 0 and 1 were excluded in even proportion. –2 was often included and only gained a mark if all three of the other integers were quoted.

Paper 18

This question was well done. A minority of candidates incorrectly included the value – 2 in their answer. The value of 0 was often included but then crossed out, possibly indicating that some candidates did not recognise that 0 is an integer.

2. Mathematics A

Paper 2

Full marks were extremely rare and this question was often not attempted. In the table, the value of y when $x = –2$ proved the most troublesome, 0 or 2 often appearing. Of those candidates who did complete the table correctly, many were unable to go on and plot the points on the grid. Many candidates' "graphs" consisted of a single point, usually (2, 3), presumably related to the equation $y = 2x + 3$. Without a line in part (b), part (c) was inaccessible.

Paper 4

The majority of the candidates were able to evaluate the points, but there were occasionally some errors with $x = –2$. Again, it was the negative coordinates which presented some problems, but most candidates were able to draw the correct straight line. It was disappointing when candidates realised that a straight line was required, and yet did not use a ruler to draw it. Reading off from the scales proved difficult for a minority of candidates, who either failed to account for the scaling, or were inaccurate in reading from one axes to another, typically by reading off one square to the left or right of the desired point on the axes.

Mathematics B

Paper 15

It was disappointing to see how few candidates scored any marks on this question. Even those candidates who managed to complete the table struggled to plot their points, and very few candidates had their points lying in a straight line. In part (a) candidates sometimes got the positive y coordinates correct but struggled to evaluate y when x was negative. It was not uncommon to see just one point plotted in part (b), namely the point (2, 3), possibly obtained by interpreting the given equation of $y = 2x + 3$ as $x = 2$ and $y = 3$. Correct answers for part (c) were a rare sight.

Paper 17

The table of values was generally completed accurately with mistakes, if any, being made on the substitution of $x = –2$. A significant number of candidates simply wrote 0, 4, 5, 6 in the table. In part (b) the straight line graph was usually correctly drawn and candidates dropping marks in part (a) often were able to score one mark by plotting their points correctly.

3. Almost three quarters of candidates completed the table of values correctly. Some worked out the y value as –4 or –3 when $1x = –1$ and a common error was for the four values to be given as -3, 3, 5 and 7. Most candidates gained one mark in part (b) for plotting their points but a surprising number then failed to join them up. Candidates had some difficulty in part (c) reading the negative value of y from the graph and in (i) answers such as 0.7 and 1.4 were common. Many failed to appreciate the scale on the y-axis and read from $y = 8.4$ instead of from $y = 8.2$. A significant number substituted into the equation rather than use the graph, but frequently failed to cope with the given value of y in (ii).

4. In was very common for the answer to part (a) to be given as (5, 3) instead of (5, 3½), i.e. halving the coordinates of B. Almost one quarter of candidates gave a correct equation in part (b) and slightly fewer in part (c) but many did not appreciate that the gradient should be ½ in part (b) and that the y-intercept should be 1 in part (c). In part (b), some interchanged the x with the y and some changed ½ into an equivalent fraction. In part (c), some simply quoted the given equation.

5. Only the candidates who scored the most marks were successful in completing the table of values correctly. In part (b) the modal mark was 0 whilst very few scored 2 marks.

Some candidates gained a mark for plotting their points from the table. It was a shame that there were some candidates who correctly filled in the table and plotted the points correctly and then did not go on to draw the line. The most common error was the failure to realise the table of values gave co-ordinates to plot.

6. Despite having a relatively easy equation to deal with, it was surprising how many errors candidates made in deriving the numbers for the table. Those who did not know what to do usually populated the table with the numbers 2, 3, 4. In part (b) where candidates plotted the points, far too many ignored the requirement to join them. In part (c) the most common error was in giving 4 as the answer, after having read the answer from $x = 1.5$ rather than $x = –1.5$.

7. Many candidates were able to gain 1 mark in part (a) when they worked out two of the values in the table and a further 1 mark if they plotted 4 of their points correctly but fully correct solutions were rare.

8. Although a lot of fully correct tables were seen in part (a) there were many that contained errors. Candidates found calculating with negative numbers a problem and the y-value for $x = –2$ was frequently incorrect. Some candidates failed to work out any correct values and a commonly seen set of y-values was –8, –4, –2, 0, 2, 4. Many candidates who managed to calculate the entries in the table then either failed to plot the points or plotted the points but did not join them up. Some candidates were able to gain 1 mark in (b) by plotting their incorrect values from the table in (a).

9. This question was answered well with the majority of candidates completing the table accurately and drawing the correct straight line.

In part (a) the most common error was an incorrect y-value for $x = –1$.

Candidates with an error in the table frequently went on to draw the correct line but unfortunately did not return to (a) to correct the table. A significant number of candidates found it difficult to plot negative coordinates, often plotting negative values of y as positive values. A few plotted the points correctly but failed to join them up.

10. The question was generally well answered, many candidates scoring at least 1 mark for the table, in part (a), and often an arithmetic slip was recovered by drawing the correct straight line in part (b). A significant number of candidates however made the common error of correctly working out the point (–2, –7) only then to quote, and plot, the points (0, 0), (1, 1) and (2, 2), showing a failure in the use of the given equation.

11. This was not well answered. A common incorrect answer was –2. Those candidates who tried to rearrange the equation into the form $y = mx + c$ were often unsuccessful in their rearrangement.

12. Nearly 4 candidates in every 5 completed the table of values accurately and the majority (65%) went on to draw the correct straight line graph, those failing to do so was often through not joining their plotted points.

13. It was pleasing to see so many gaining full marks in this question; although attempts by others frequently failed to score any marks. Quite often just the point (2, –3) was plotted. Many attempts were made to construct a table of values, often inaccurate or incomplete, leading to polygons instead of a straight line. The lines $y = x$ and $y = x + 3$ were also seen. Some candidates plotted the points (–1, 0), (4, 0), (0, 2) and (0, –3), often joining them up to make a quadrilateral.

14. The majority of candidates in part (b) understood the concept of a rest period equating to a zero gradient and read the time scale accurately to gain the mark for this part of the resulting journey. Usually candidates completed the graph correctly, terminating at 5 pm; however a significant number used the end of the grid (5:15pm) as their end point. Some thought the return journey was still a positive gradient and a line segment joining (3, 20) to (5, 21) was not uncommon. Those who failed to accurately show the 1 hour rest period on the graph often still showed that the journey finished at 5 pm and thus were awarded one mark.

15. Despite not having a table of values to complete, many candidates were able to draw a correct straight line, either by construction of their own table of values (using the space provided) or by using $y = mx + c$. Common errors were lines $y = 1.5x + 1$, $y = 3x$ and $y = 1$. Weaker candidates often merely plotted the point (3, 1) or joined the points (0, 3) and (1, 0). There were still some candidates who plotted points accurately and then failed to join them with a straight line, gaining one mark only for their correct plots.

16. This question was beyond many candidates. It was not attempted by some. Only 20% of candidates were able to complete all 4 of the missing entries in the table of values successfully. Some values were already given in the hope that they may be used to check understanding of the question before candidates attempted to find the values required. Centres are advised to emphasise this when preparing future candidates. In some cases candidates who successfully completed the table in part (a) made no attempt at part (b). Relatively few candidates seemed to appreciate that the equation would be represented by a straight line graph and only 1 in 10 candidates gained both of the marks available in this part of the question. Some plotted their (incorrect) values from part (a) correctly on the grid to salvage one mark.

17. Candidates struggled to draw the graph of $y = 2x - 3$. A few tried to draw a table to help them get some of the coordinates of the point on the graph but most just drew random points. By far the most common incorrect answer was to just plot one point, generally (2, −3), sometimes joining this point to the axes. Several joined the points (2, −3) and (−2, 3). Others joined (0, 2) and (−2, 0) possibly trying to do something about using the x values from –2 to 2. Quite a few candidates did realize the line went through the point (0, −3), thereby scoring only one mark. The mean mark for this 3 mark question was only 0.4.

18. (a) Few candidates gained full marks in completing the table of values; usually making errors when substituting -2 and/or 0 into the equation.

(b) Many candidates gained one mark for correctly plotting at least 4 of their values from the table, but few gained full marks. A significant number of candidates, having plotted 5 correct points, failed to join them up to give the required graph.
Some candidates were aware of the significance of the coefficient of 'x' and the number on the end but often had them the wrong way around. Graph crossing at (–1, 0). A few had a line drawn with a gradient of 3 but as before going through (–1, 0)

19. Foundation

This question was not answered well, many candidates failing to get even one correct value in the table of values. Even when the table of values was totally incorrect, many also failed to plot at least 4 points from their table. This would have earned them one mark. A few candidates were successful in drawing an accurate graph despite an inaccurate table of values. These could have gained extra marks by returning to part (a) and reading off values of y from their line.

Higher

Overall both parts of this question were very well done. Correct tables of values were seen more often than not. Errors were usually with the value of y at $x = –2$, –4 being a common error. Most candidates gained at least 2 marks on this question, failure to score both marks in (b) was often the result of failing to actually join up correctly plotted points. Candidates, whose table was wrong, were still able to gain some credit for their attempt in (b)

20. Foundation

Quite a few candidates were able to complete the table correctly or get at least one value correct. Most did not recognise that the equation was linear such that they could have checked their values by looking for a pattern in the y-values. A significant number also managed to find the values and plot the points correctly but then failed to join up the points to create a straight line thus losing the final mark. Only 27% completed the table correctly and drew the correct line scoring all 4 marks with 9% scoring 3, 15% scoring 2 and 18* scoring 1 mark.

Higher

Completing the table of values and then drawing the graph produced some first class results with accurate values being given and precise points located and joined up to give a straight line graph. Over 75% scored all 4 marks on this question. Some had difficulty in calculating the values to begin with and clearly did not recognise that the equation was linear such that they could have checked their values by looking for a pattern in the y-values. A significant number also managed to find the values and plot the points correctly but then failed to join up the points to create a straight line thus losing the final mark. Several candidates had errors in their tables but still managed to have a totally correct graph. Perhaps, they did not recognise that the table of values was anything to do with the second part of the question. A significant number also seemed to be able to complete the table of values without difficulty, but then had no idea how to draw the graph and consequently this was left blank. Only around 4% of the candidates failed to score any marks on this question.

21. In part (a), many candidates gained full marks; errors tended to be in the substitution of $x = -1$, where $y = -1$ was the most common mistake. In part (b), most candidates were able to score at least one mark for correctly plotting 4 or 5 points from their table of values.

Many gained full marks and a significant number should have done but for failing to actually join up 5 correct points. A few candidates recognised that the line intercepted the y-axis at -3 but then failed to draw a correct gradient.

22. The greater majority of candidates drew their own table of values in order to draw the graph of the given function. Many accurately completed this method to gain full marks, however errors in the substituting of negative values of x often prevented this. 1 or 2 marks could still be awarded for some correctly plotted points. A number of candidates recognised that the line intercepted the y-axis at -3 but rarely then drew the line with correct gradient. This was awarded 1 mark.

23. A well understood question with almost all candidates gaining at least 2 marks. Full marks were gained by about half of all candidates with about a quarter of candidates gaining 3 marks, usually for not joining their points with a straight line.

24. A well understood question with almost all candidates obtaining full marks. Those that did not score maximum marks usually gained 2 marks for plotting the points and not drawing the line.

25. Questions of this type are almost always set on this paper. However whilst many candidates were able to calculate the positive values of x in the table of values then could not then substitute $x = -1$ into $y = 5x + 1$ correctly. 31% of candidates scored all 4 marks whilst a further 9% scored 3 marks. 2 marks were awarded in 19% of cases and a further 14% of candidates were able to score 1 mark. Other typical errors were to plot the points correctly and then not draw in the straight line and some candidates got the table of values incorrect but were able to score the marks for a correct straight line.

26. This question was very well understood with 80% of candidates scoring all four marks. A further 9% scored 3 marks for either drawing a graph from their table of values or for plotting at least 5 of their points correctly. There were still far too many candidates just plotting the points and not drawing in the straight line. Only 4% of candidates scored 1 mark or less.

27. **Foundation**

The most successful attempts at drawing the line on the grid were from those candidates who drew up a table of values first. Only 15% % of candidates gained full marks for this question. Some candidates failed to join their points with a straight line and others did not extend their line to cover the full range of values. A further 15% of candidates scored 1 or 2 marks for calculating or plotting 1 or 2 correct points. There was little evidence of candidates entered for this tier using the gradient-intercept method for drawing the line. A disappointingly large number of candidates plotted the points (3, –2) and (–1, 3) then joined them, showing little understanding of this topic.

Higher

Many candidates (57%) found this question straightforward and scored all 3 marks. However, there was a significant minority of pupils who plotted the points (3, –2) and (–1, 3) sometimes joining them. It is disappointing to report that such responses were seen from candidates entered for the Higher Tier. Some candidates attempted to use the gradient-intercept method to draw the line but only scored 1 mark because they did not relate the gradient to the different scales used on the x- and y-axes.