Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Equations of a Straight Line

Calculator Allowed

INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.
- Write your answers in the spaces provided in this question paper.
- Answer ALL questions.
- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.
- You should have a ruler, compass and protractor where required.

Total Marks :

1) **(a)** Find the equation of the line joining the points (0, 5) and (2, 11).

Answer _____ [3]

(b) Write down the equation of the line parallel to the line in part **(a)** which passes through the point (0, –4).

Answer _____ [2]

2) Select from the following list of equations to complete the table below.

Equations:

A: $y + 4x = 3$ **B:** $y = 5x$ **C:** $y = 5x + 7$

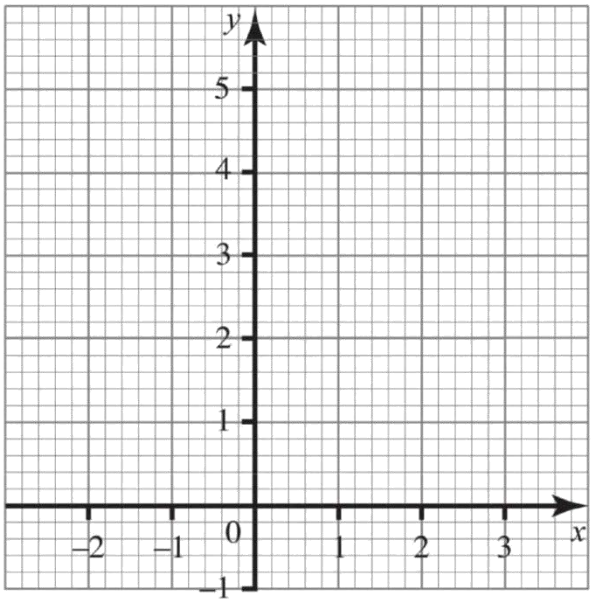
D: $y - 3x = 4$ **E:** $x + y - 5 = 0$ **F:** $2y = 3x + 5$

Description	Equation
Passes through the origin (0, 0)	
Parallel to $y = 3x + 7$	
Intersects the y-axis at $y = 5$	

[3]

3) A straight line with gradient 2 passes through the points $(-2, -1)$ and $(1, b)$.

(a) Using the axes below, or otherwise, find the value of b.



Answer $b =$ _____ [1]

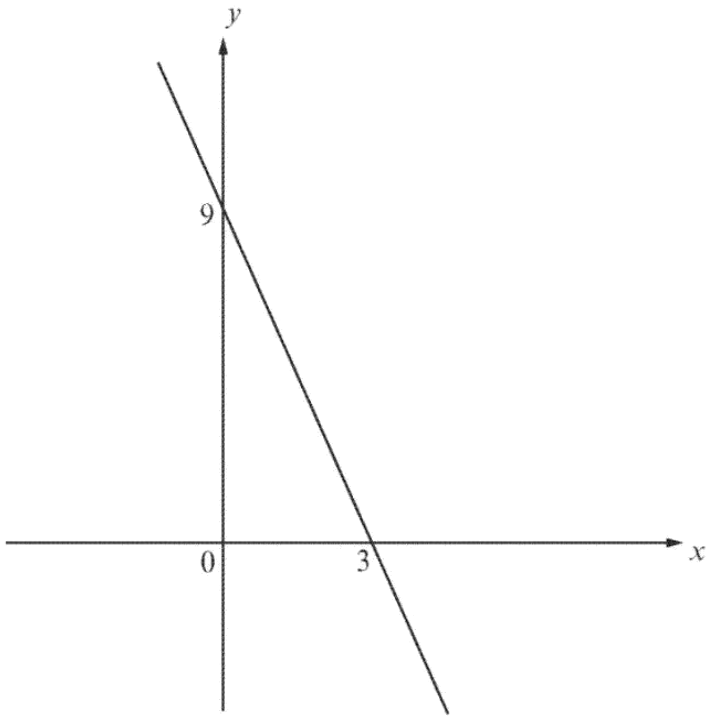
(b) Find the equation of this line.

Answer _____ [2]

4) Write down the equation of the line perpendicular to the line $y = -3x + 1$ and passing through the point $(0, -2)$.

Answer _____ [2]

5)



The straight line, shown in the sketch above, intersects with another straight line which is not shown.
The other straight line is perpendicular to the straight line shown.
The two straight lines intersect at the point where $x = 1$.
Find the equation of this other straight line.

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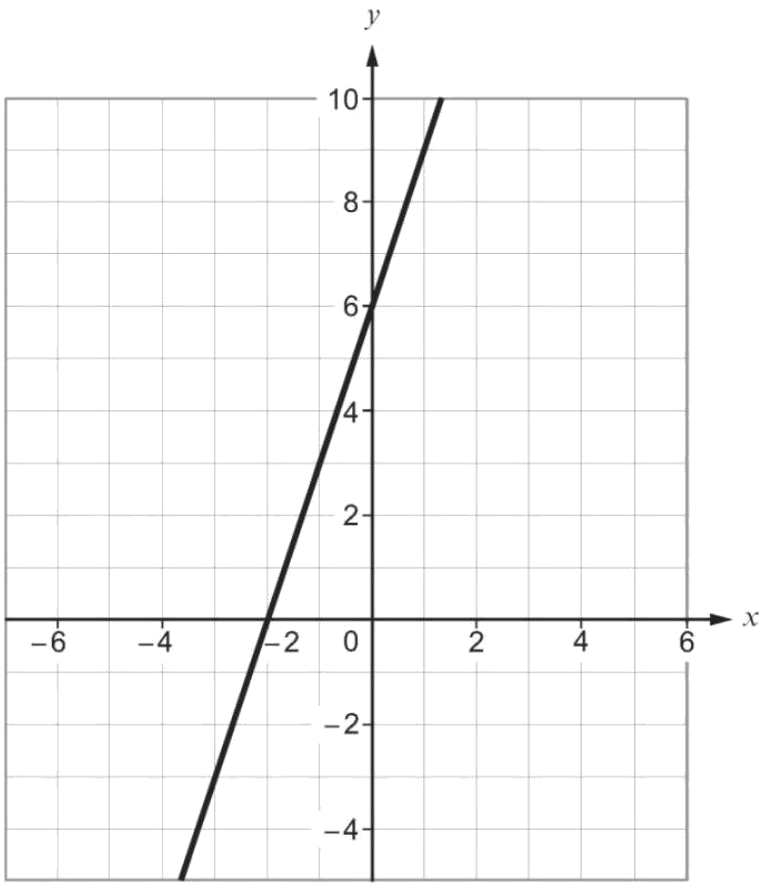
[8]

6) *(a)* Find the equation of the straight line shown in the following diagram. Write your answer in the form $y = mx + c$. [2]



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Equation of the straight line is $y =$ ..... $x +$ .....

(b) On the grid above, draw the straight line which has a gradient of –2 and which passes through the point (0, –1). [2]

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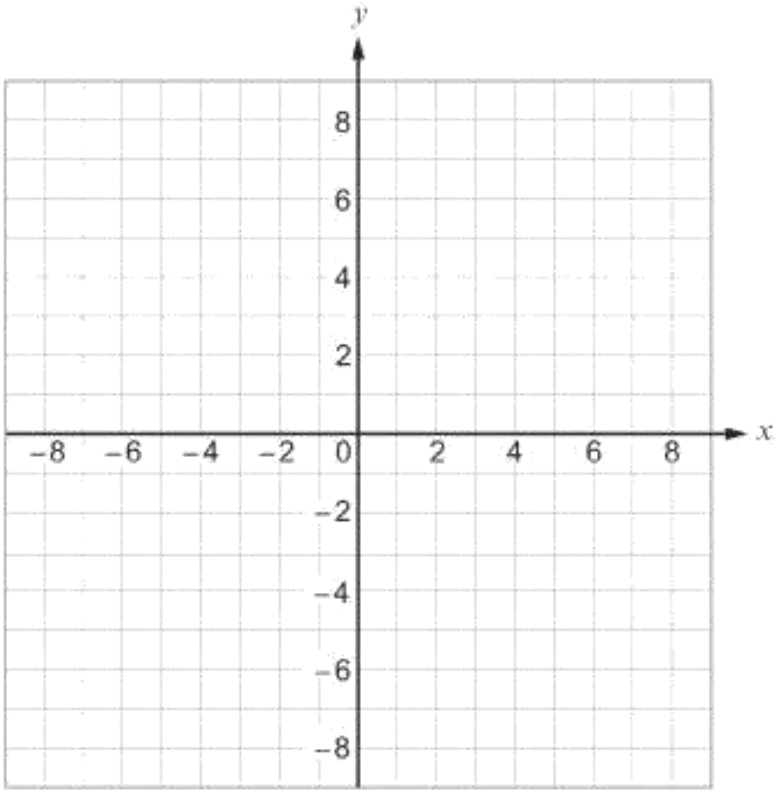
7) A point moves such that it is equidistant from the x-axis and the y-axis.

(i) On the grid below, plot the locus of the point. [2]



(ii) Write down the equations that represent the locus of the point. [2]

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..... and .....

8) Use the following to find the equation of a straight line.
- The point that is halfway between (3, 20) and (–3, 16) lies on the straight line.
- When (–1, 10) is reflected in the y-axis, it gives another point on the straight line.

[6]