

Surname	
Other Names	
Candidate's Signature	

## GCSE 9 - 1 Questions

### Parallel and Perpendicular

**Calculator Allowed**

#### INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

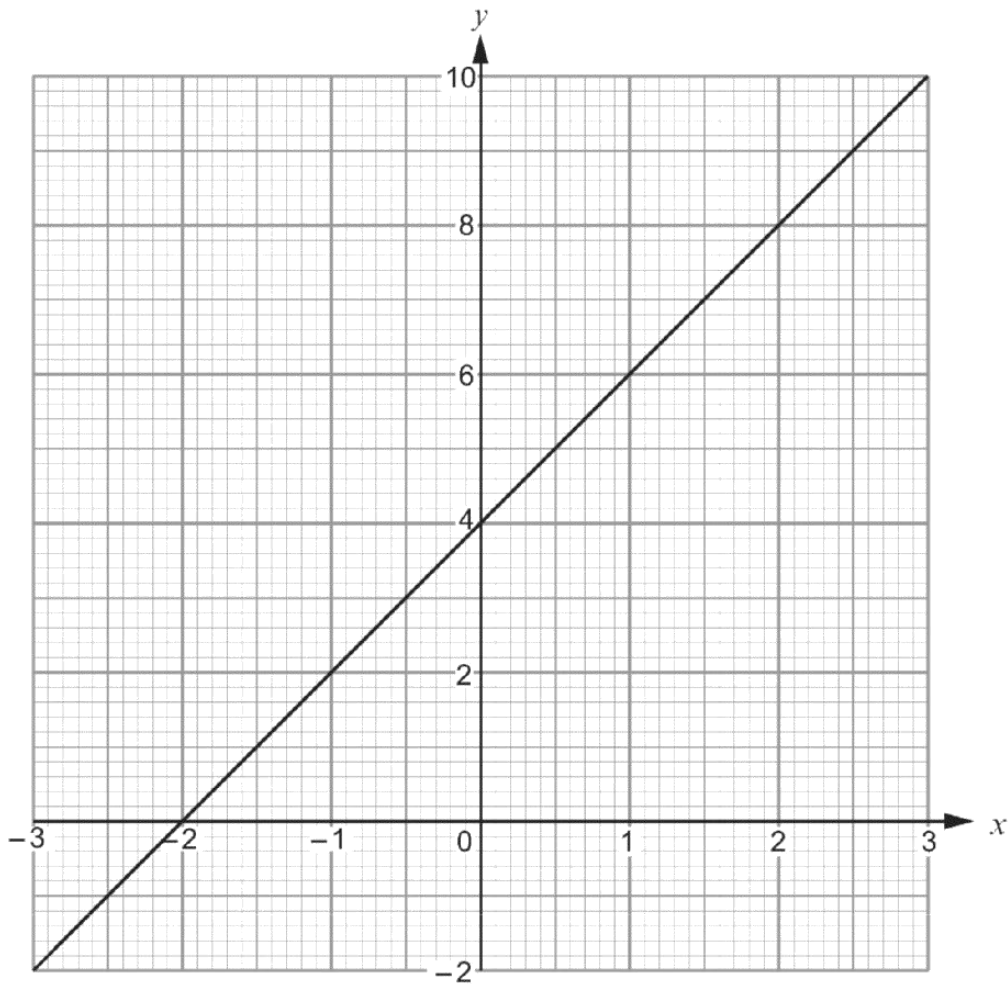
Answer ALL questions.

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) The diagram below shows the graph of a straight line for values of  $x$  from  $-3$  to  $3$ .



(i) Write down the gradient of the above line. [1]

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(ii) Write down the equation of the line in the form  $y = mx + c$ , where  $m$  and  $c$  are whole numbers. [2]

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(b) Without drawing, show that the line  $2y = 5x - 3$  is parallel to the line  $4y = 10x + 7$ . You must show working to support your answer. [2]

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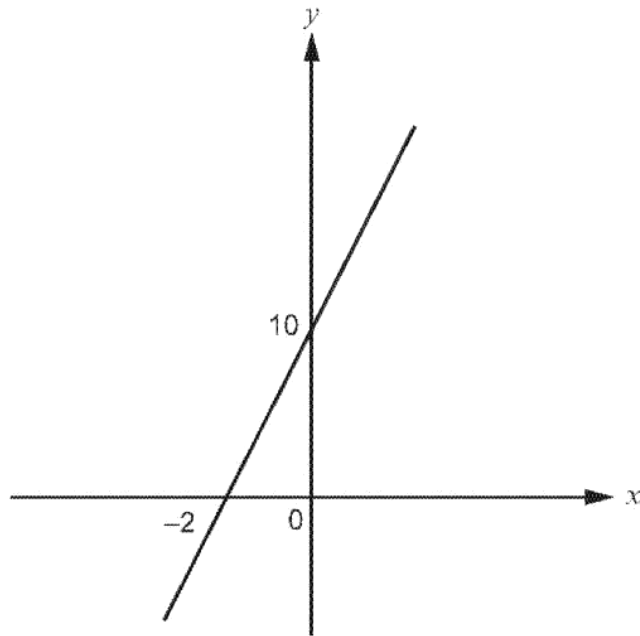
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2) Write down the equation of the line perpendicular to the line  $y = -3x + 1$  and passing through the point  $(0, -2)$ .

Answer \_\_\_\_\_ [3]

3)



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, and
- passes through the point (0, 7).

Find the equation of this other straight line.

You must show all your working.

[4]

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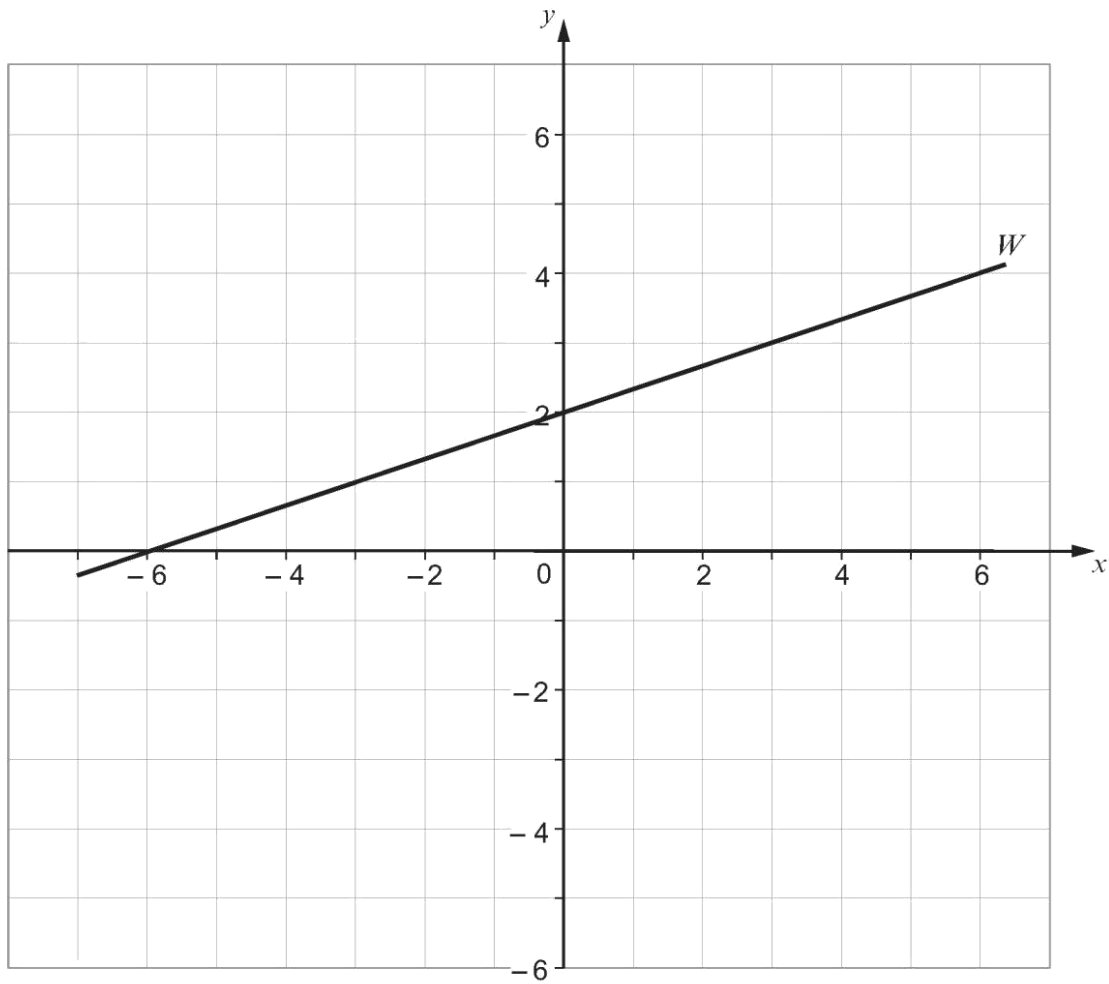
4) **(a)** Find the equation of the line joining the points  $(0, 5)$  and  $(2, 11)$ .

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]

5) A straight line,  $W$ , is shown on the axes below.



- (a) The straight line,  $V$ , is parallel to  $W$  and passes through  $(0, -5)$ .  
Find the equation of  $V$ .  
Write your answer in the form  $y = mx + c$ .

[2]

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(b) The straight line,  $Z$ , is

- perpendicular to the straight line  $W$ , and
- passes through the mid-point of  $(6, 5)$  and  $(-2, -5)$ .

Find the equation of  $Z$ .

Write your answer in the form  $y = mx + c$ .

[4]

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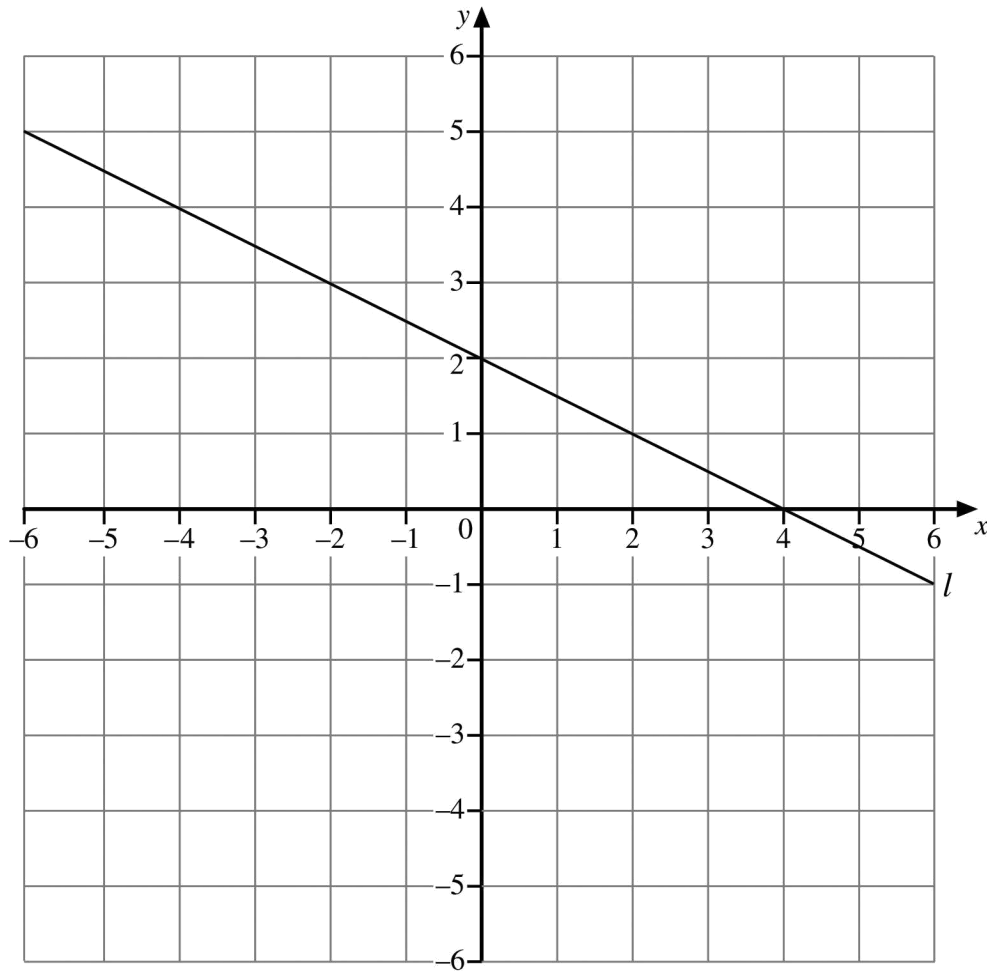
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6)



(a) (i) Find the gradient of the line  $l$                       Answer \_\_\_\_\_ [1]

(ii) Hence write down the equation of this line in the form  $y = mx + c$ .

Answer \_\_\_\_\_ [2]

(b) Here are the equations of another 4 lines

Line 1:  $y = 2x$

Line 2:  $y = -2$

Line 3:  $y = x - 3$

Line 4:  $y = 2x - 2$

Which one of these lines is parallel to the line with equation  $y = x - 2$ ?

Answer \_\_\_\_\_ [1]