

Name: \_\_\_\_\_

## GCSE (1 – 9)

# The Equation of a Line

### Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

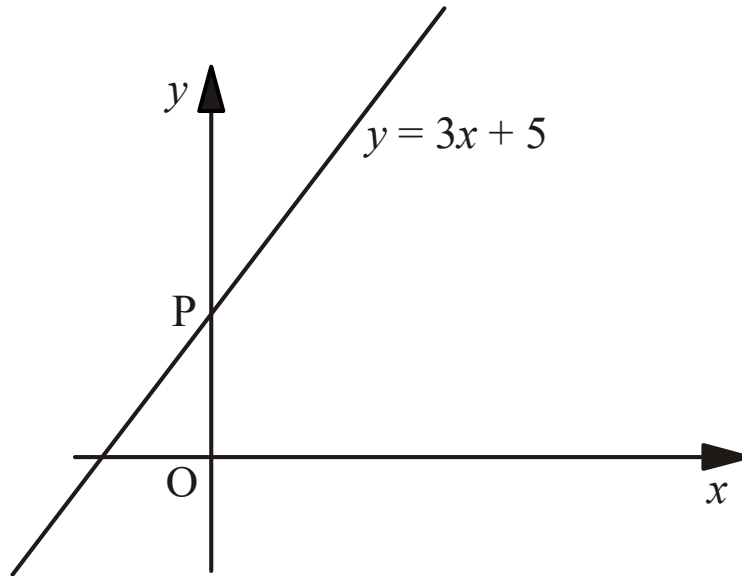
### Information

- The marks for each question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1



(a) The line  $y = 3x + 5$  crosses the  $y$  axis at  $P$ .  
What is the value of  $y$  at  $P$ ?

.....  
(1)

(b) Write down the equation of another line which is parallel to  $y = 3x + 5$

.....  
(1)

**(Total for Question 1 is 2 marks)**

2 A line passes through the point  $(0, 4)$ .  
The gradient of this line is 2.  
Write down the equation of this line.

.....  
**(Total for Question 2 is 2 marks)**

3 A line passes through the point  $(0, -5)$ .  
The gradient of this line is 3.  
Write down the equation of this line.

.....  
**(Total for Question 3 is 2 marks)**

4 A straight line has equation  $y = 5 - 3x$

(a) Write down the gradient of the line.

.....  
(1)

(b) Write down the coordinates of the point where the line crosses the  $y$  axis.

.....  
(1)

**(Total for Question 4 is 2 marks)**

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5 A straight line has equation  $y = 3x - 2$

(a) Write down the gradient of the line.

.....  
(1)

(b) Write down the coordinates of the point where the line crosses the  $y$  axis.

.....  
(1)

**(Total for Question 5 is 2 marks)**

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6 A straight line has equation  $y = 2 - x$

(a) Write down the gradient of the line.

.....  
(1)

(b) Write down the coordinates of the point where the line crosses the  $y$  axis.

.....  
(1)

**(Total for Question 6 is 2 marks)**

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7 A straight line has equation  $y = 4x + 3$

(a) Write down the gradient of the line.

.....  
(1)

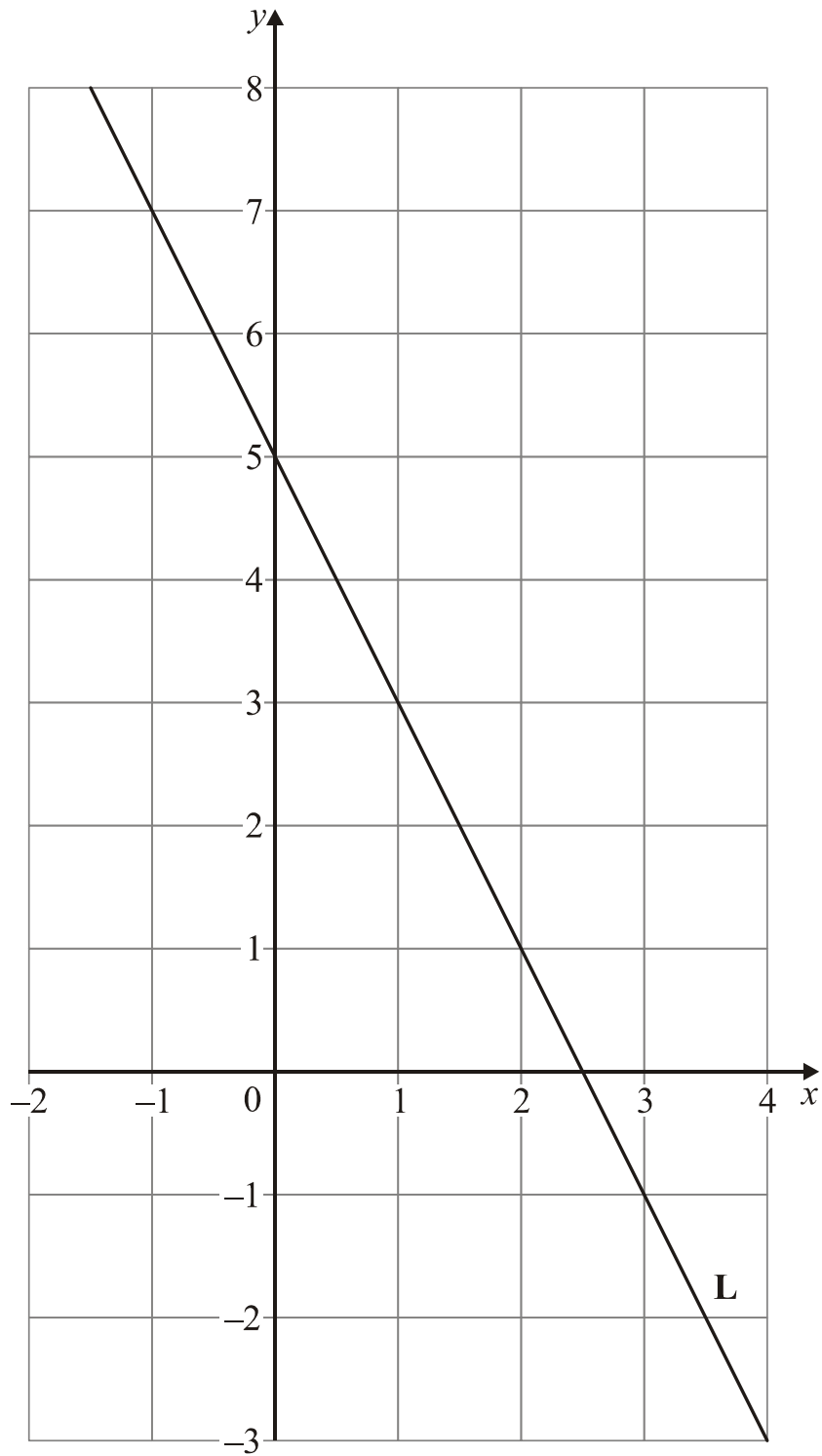
(b) Write down the coordinates of the point where the line crosses the  $y$  axis.

.....  
(1)

**(Total for Question 7 is 2 marks)**

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8



Find the equation of line L.

.....  
(Total for Question 8 is 3 marks)

**9** A straight line has equation  $2y - 10x = 8$

(a) Work out the gradient of this line.

(b) Write down the equation of a line parallel to this line.

.....  
(2)

.....  
(1)

**(Total for Question 9 is 3 marks)**

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**10** A straight line has equation  $4y - 5x = 2$

(a) Work out the gradient of this line.

(b) Write down the equation of a line parallel to this line.

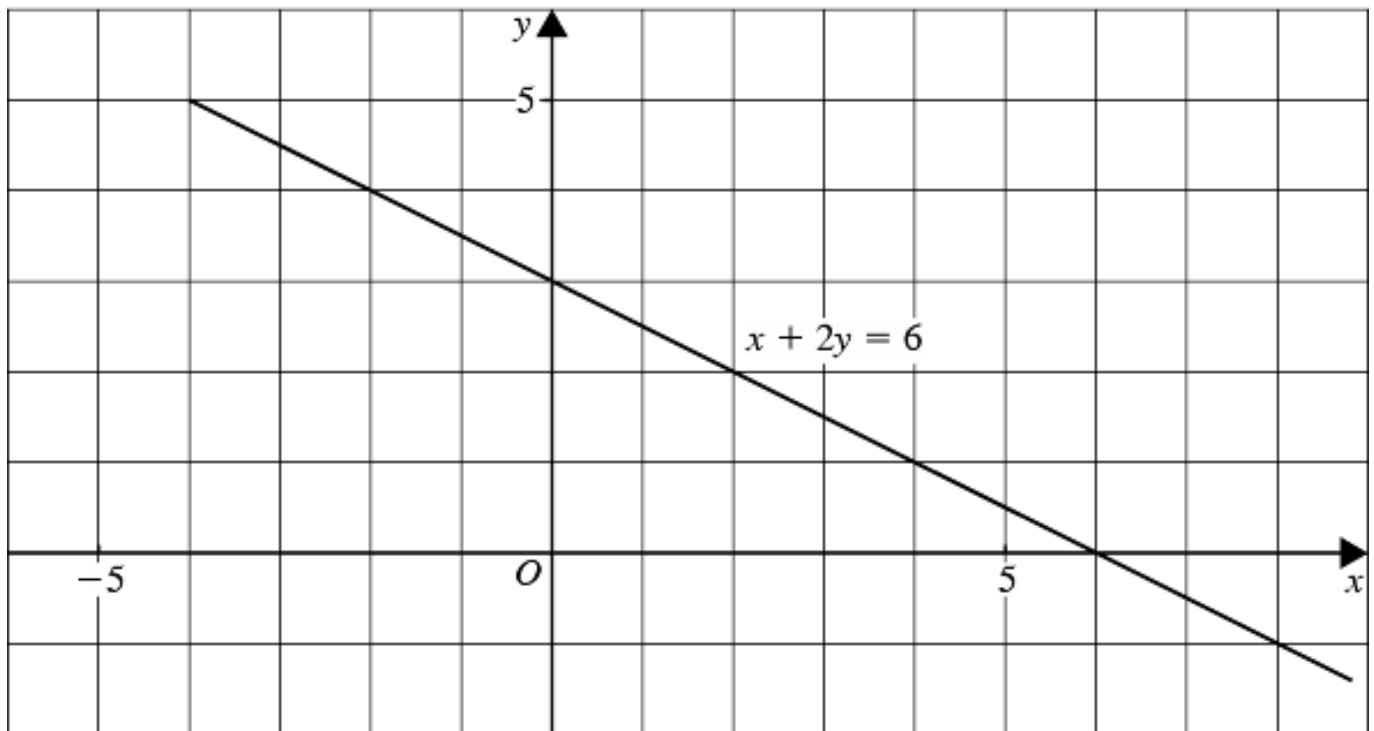
.....  
(2)

.....  
(1)

**(Total for Question 10 is 3 marks)**

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- 11 The line with equation  $x + 2y = 6$  has been drawn on the grid.



- (a) Rearrange the equation  $x + 2y = 6$  to make  $y$  the subject.

.....  
(2)

- (b) Write down the gradient of the line with equation  $x + 2y = 6$

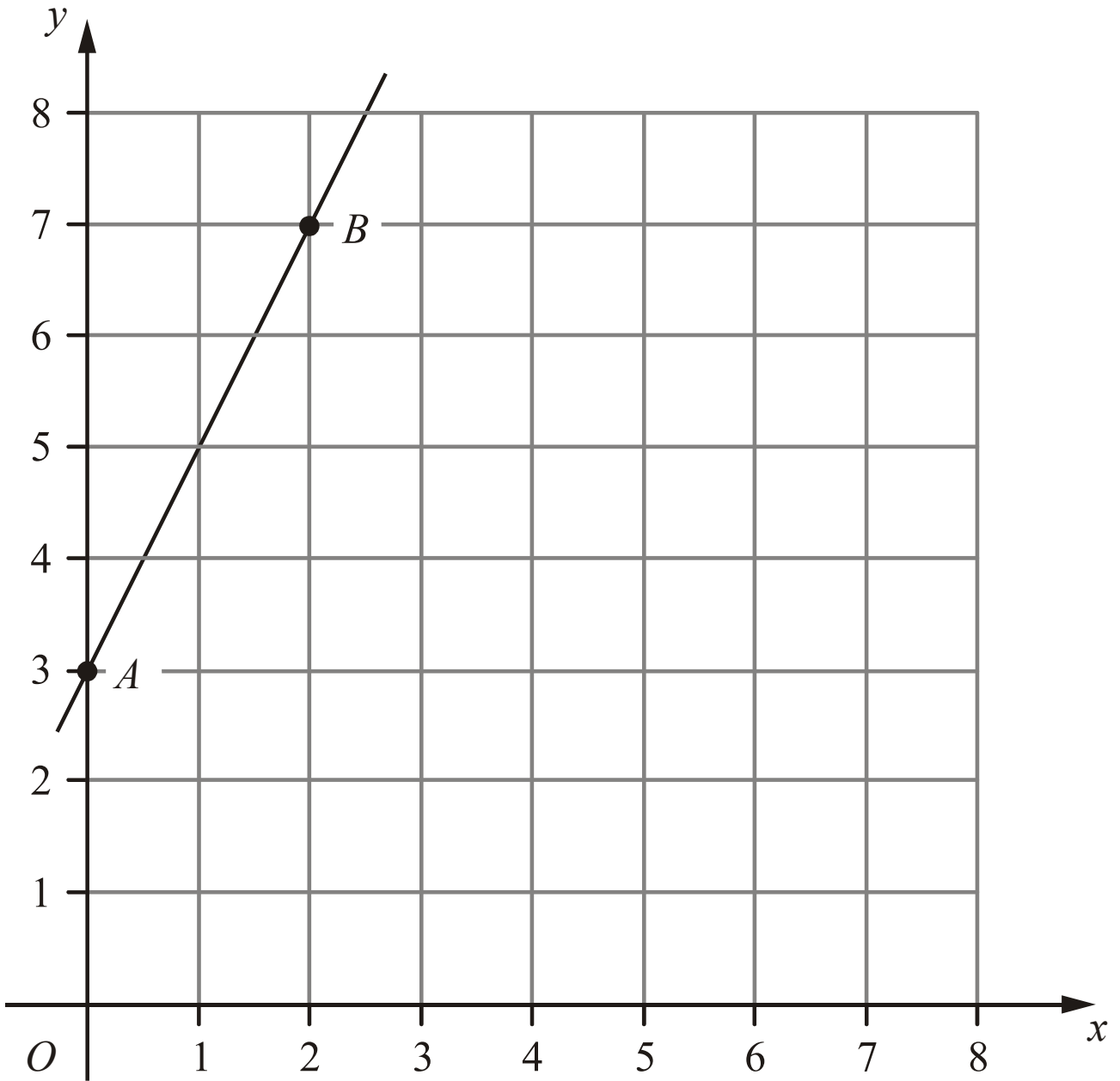
.....  
(2)

- (c) Write down the equation of the line which is parallel to the line with equation  $x + 2y = 6$  and passes through the point with coordinates  $(0, 7)$ .

.....  
(1)

**(Total for Question 11 is 5 marks)**

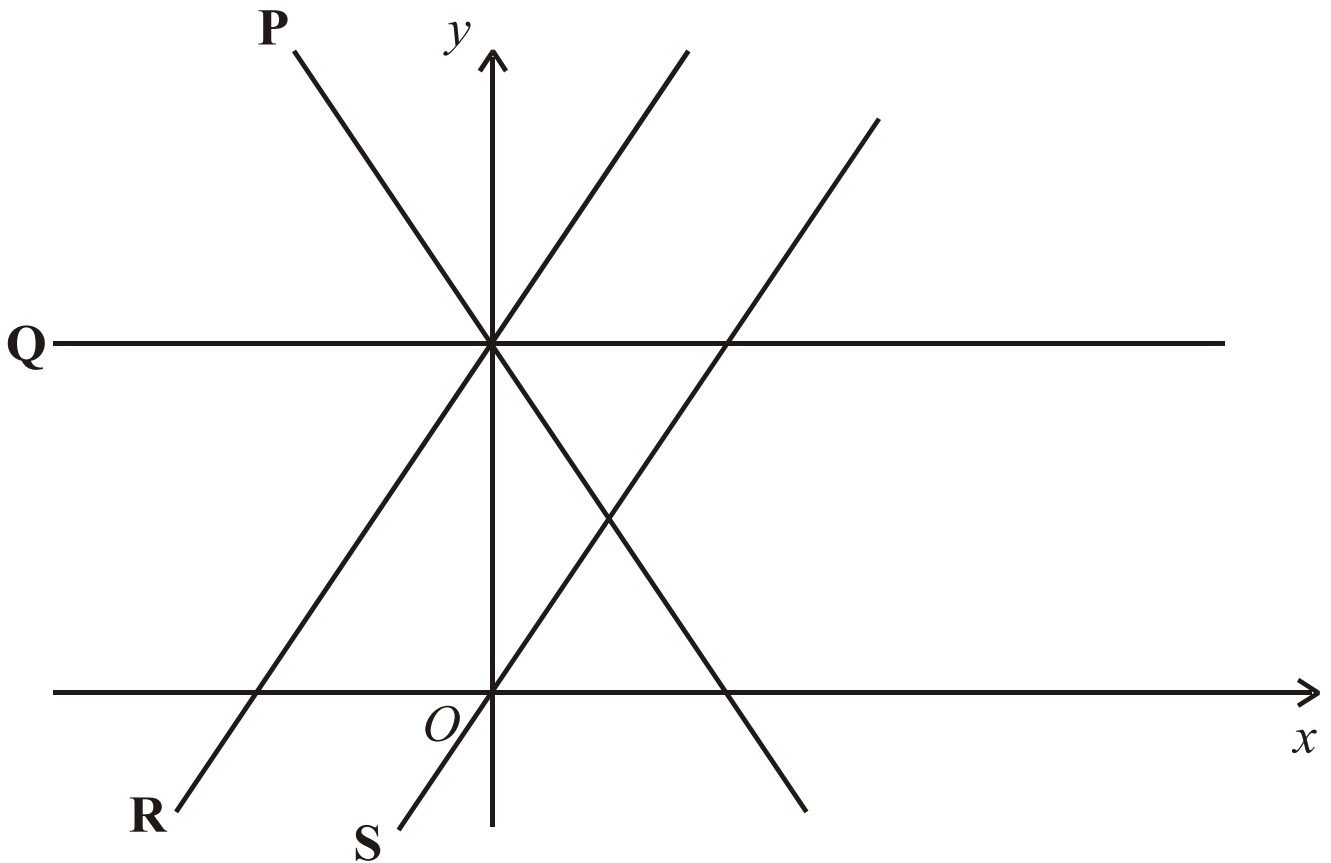
12



Find the equation of the line that passes through  $A$  and  $B$ .

.....  
**(Total for Question 12 is 3 marks)**

13



The diagram shows 4 straight lines, labelled P, Q, R and S.  
The equations of the straight lines are:

- A:  $y = 2x$
- B:  $y = 3 - 2x$
- C:  $y = 2x + 3$
- D:  $y = 3$

Match each straight line, P, Q, R and S to its equation.  
Complete the table.

Equation	A	B	C	D
Straight line				

(Total for Question 13 is 2 marks)