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.**

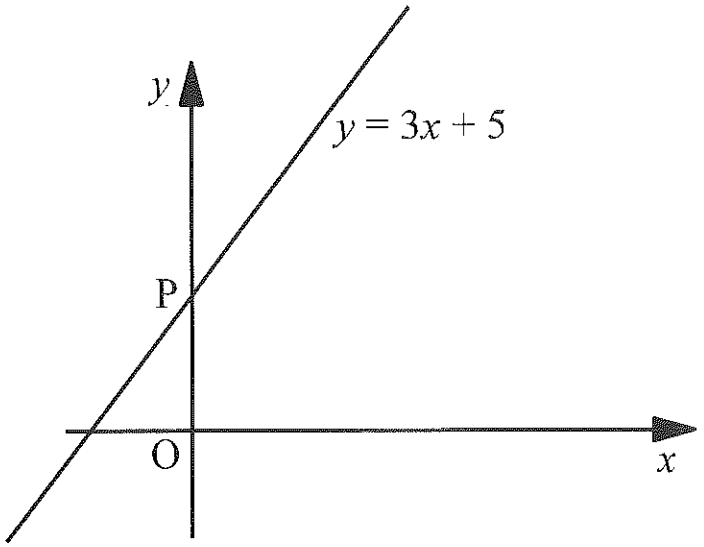
Information

- 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?

.....5..... (1)

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

y=3x..... (1)

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

y=2x+4..... (2)

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

(a) Write down the gradient of the line.

..... -3 ..... (1)

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

..... 5 ..... (1)

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

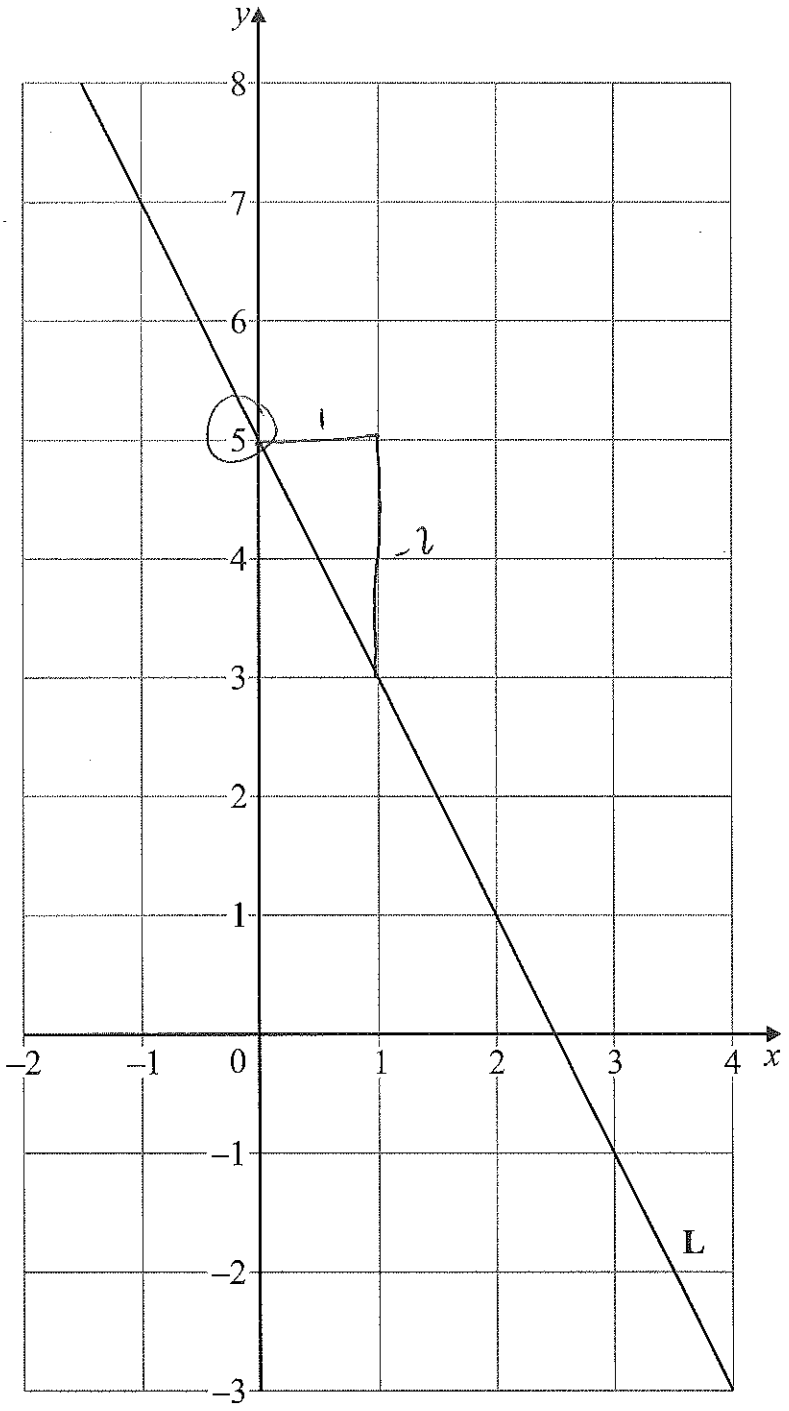
(a) Write down the gradient of the line.

..... 3 ..... (1)

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

..... (0, -2) ..... (1)

5.



Find the equation of line L

$y = -2x + 5$ ..... (3)

6a) A straight line has equation $2y - 10x = 8$
Work out the gradient of this line.

$2y = 10x + 8$

$y = 5x + 4$

.....5..... (2)

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

$y = 5x$..... (1)

7a) A straight line has equation $4y - 5x = 2$
Work out the gradient of this line.

$4y = 5x + 2$

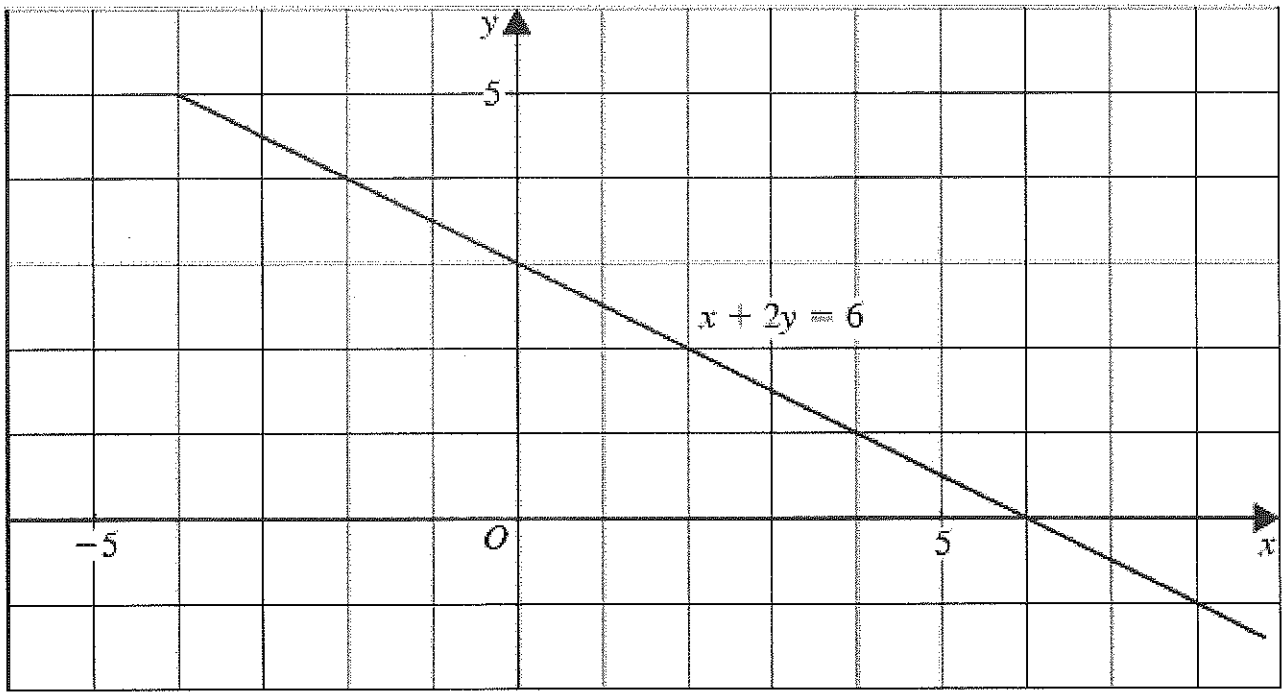
$y = \frac{5}{4}x + \frac{1}{2}$

.....5/4..... (2)

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

$y = \frac{5}{4}x$... (1)

8. 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.

$2y = -x + 6$

$y = -\frac{1}{2}x + 3$

$y = -\frac{1}{2}x + 3$ (2)

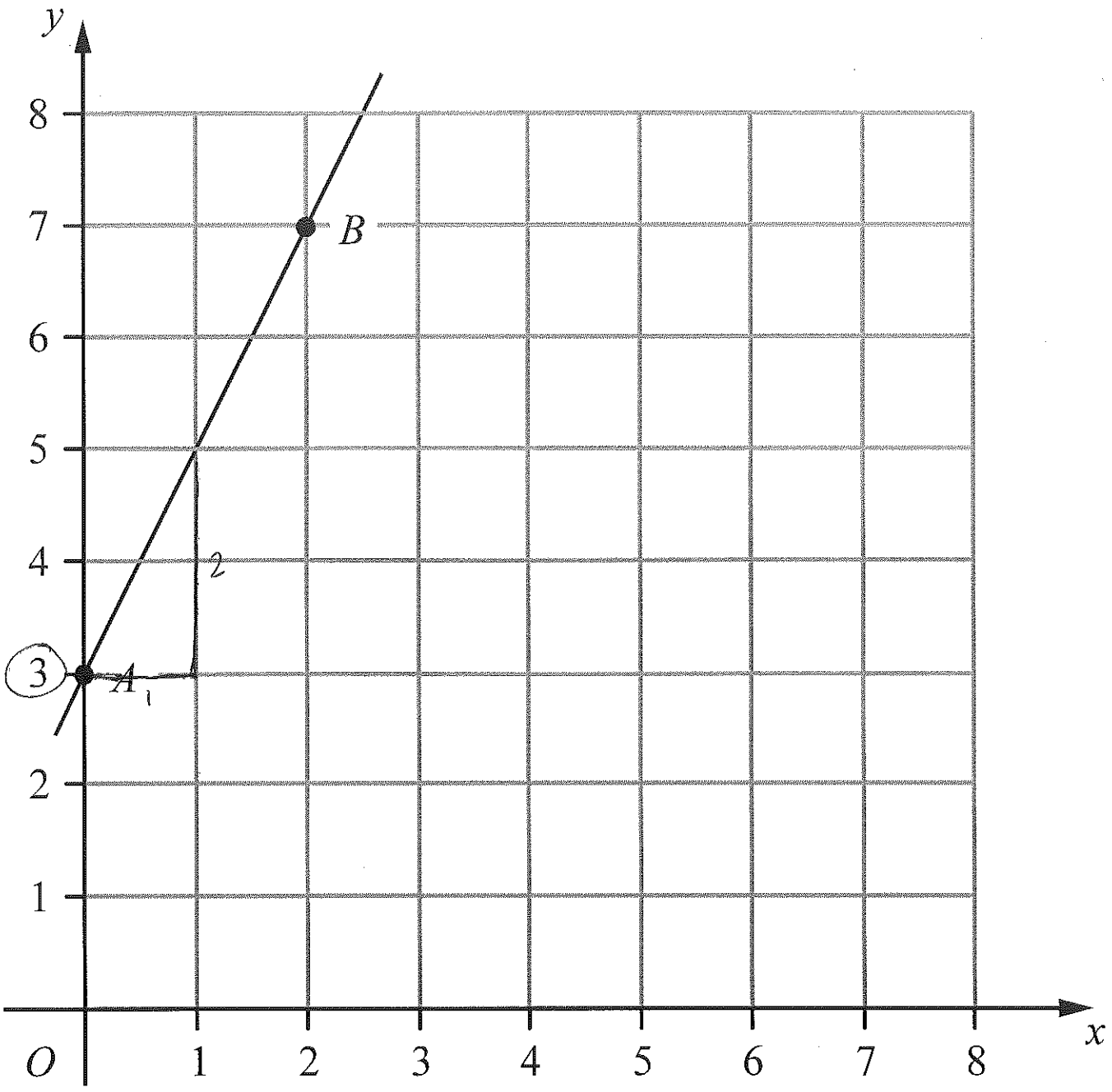
(b) Write down the gradient of the line with equation $x+2y=6$

$-\frac{1}{2}$ (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).

$y = -\frac{1}{2}x + 7$ (1)

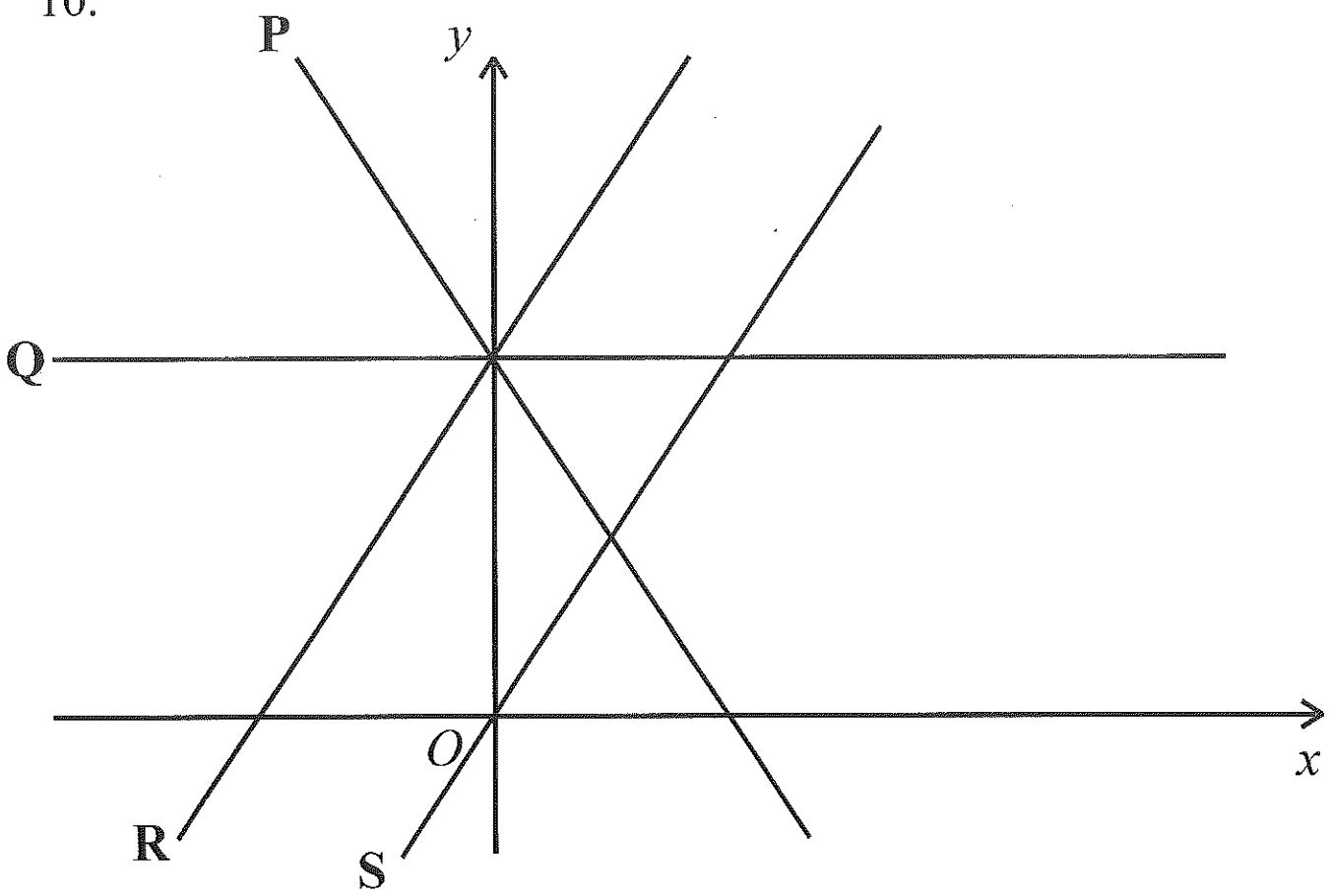
9.



Find the equation of line that passes through A and B

$y = 2x + 3$ (3)

10.



7. 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	S	P	R	Q

(2)