

# A4

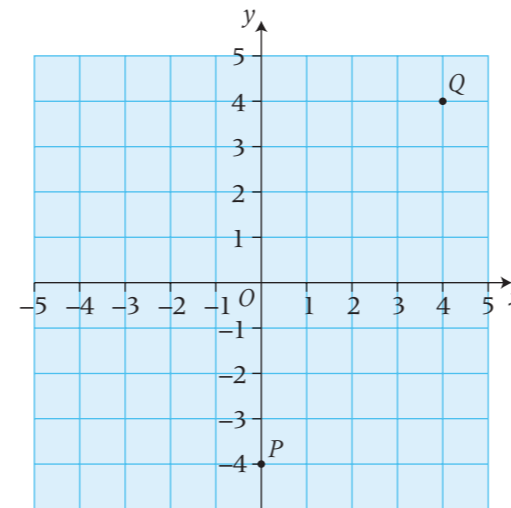
## Algebra exam review

1 Solve the inequality  $9x - 2 < 5x + 4$

.....

(Total 3 marks)

2



a *P* and *Q* are points with coordinates (0, -4) and (4, 4).  
Find the equation of the straight line which passes through *P* and *Q*.

.....

(4)

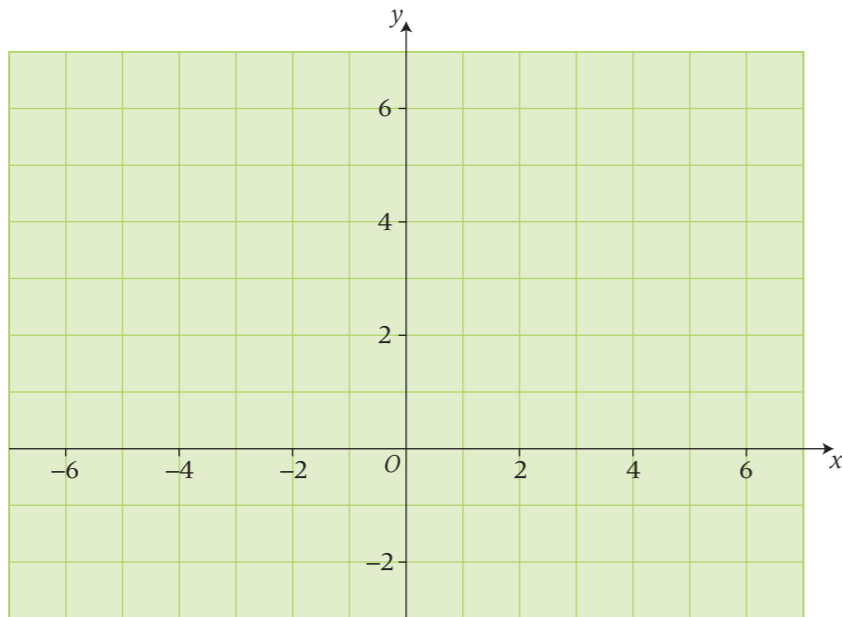
b On the grid, draw the line with equation  $y = -\frac{1}{2}x + 1$  (3)

(Total 7 marks)

3 Show, by shading on the grid, the region which satisfies all three of these inequalities.

$$x \geq 1 \quad y \geq x \quad x + 2y \leq 6$$

Label your region **R**.

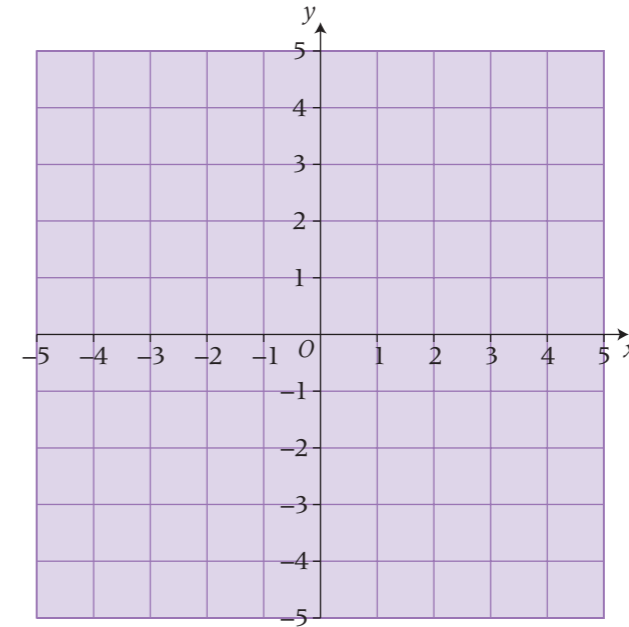


(Total 4 marks)

4 Show, by shading on the grid, the region which satisfies these inequalities

$$1 \leq x \leq 3 \quad \text{and} \quad -4 \leq y \leq -2$$

Label your region **R**.



(Total 3 marks)

5  $n$  is an integer such that  $-5 < 2n \leq 6$

List all the possible values of  $n$ .

.....

(Total 3 marks)

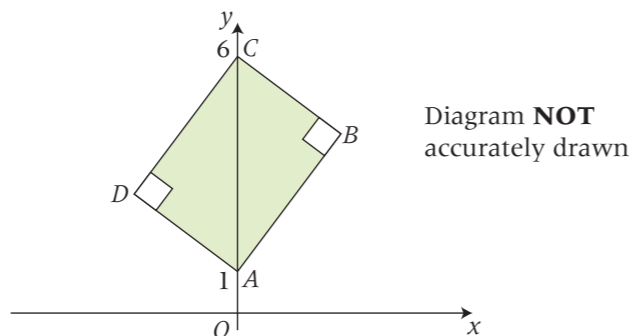
6 A straight line passes through the points (0, 5) and (3, 17).

Find the equation of the straight line.

.....

(Total 3 marks)

7



$ABCD$  is a rectangle.  
 A is the point  $(0, 1)$ .  
 C is the point  $(0, 6)$ .

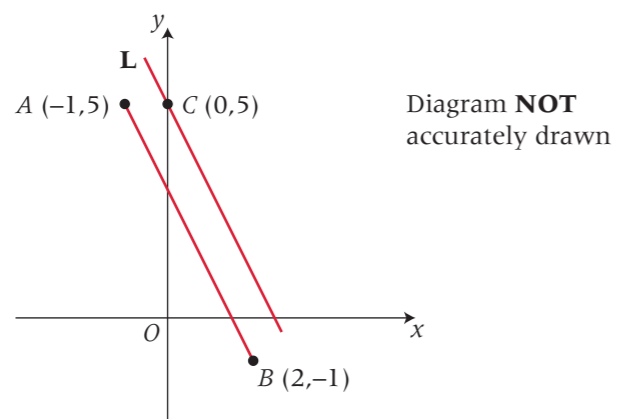
The equation of the straight line through A and B is  $y = 2x + 1$

Find the equation of the straight line through D and C.

.....

(Total 2 marks)

8



The diagram shows three points A  $(-1, 5)$ , B  $(2, -1)$  and C  $(0, 5)$ .

A line **L** is parallel to  $AB$  and passes through C.

Find the equation of the line **L**.

.....

(Total 4 marks)

9 Solve  $4 < x - 2 \leq 7$

.....

(Total 3 marks)

10 The straight line  $L_1$  has equation  $y = 2x + 3$

The straight line  $L_2$  is parallel to the straight line  $L_1$ .

The straight line  $L_2$  passes through the point  $(3, 2)$ .

Find an equation of the straight line  $L_2$ .

.....

(Total 3 marks)

11 A straight line, **L**, has equation  $3y = 5x - 6$

Find

i the gradient of **L**,

.....

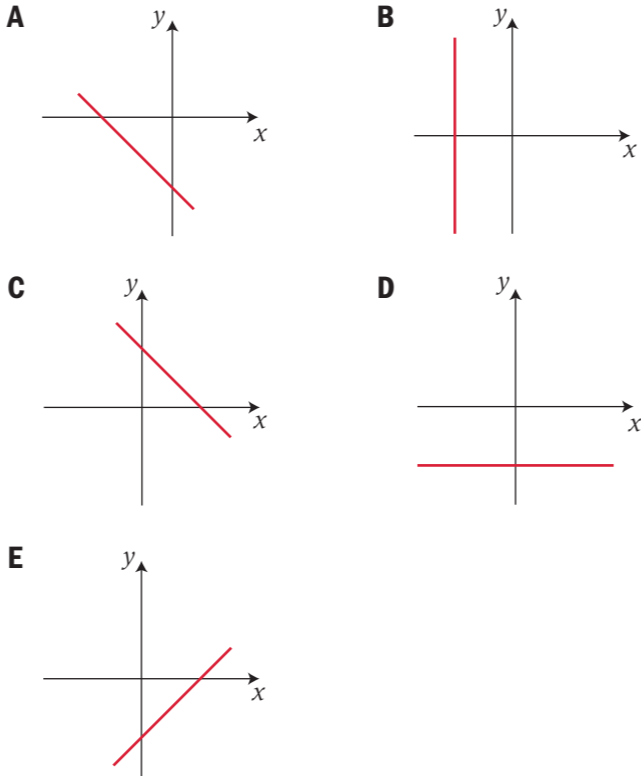
ii the y-co-ordinate of the point where **L** cuts the y-axis.

$(0, \dots)$

(Total 2 marks)



**12** Here are five graphs labelled **A**, **B**, **C**, **D** and **E**.



Each of the equations in the table represents one of the graphs **A** to **E**.

Write the letter of each graph in the correct place in the table.

Equation	Graph
$x + y = 5$	
$y = x - 5$	
$y = -5 - x$	
$y = -5$	
$x = -5$	

(Total 3 marks)