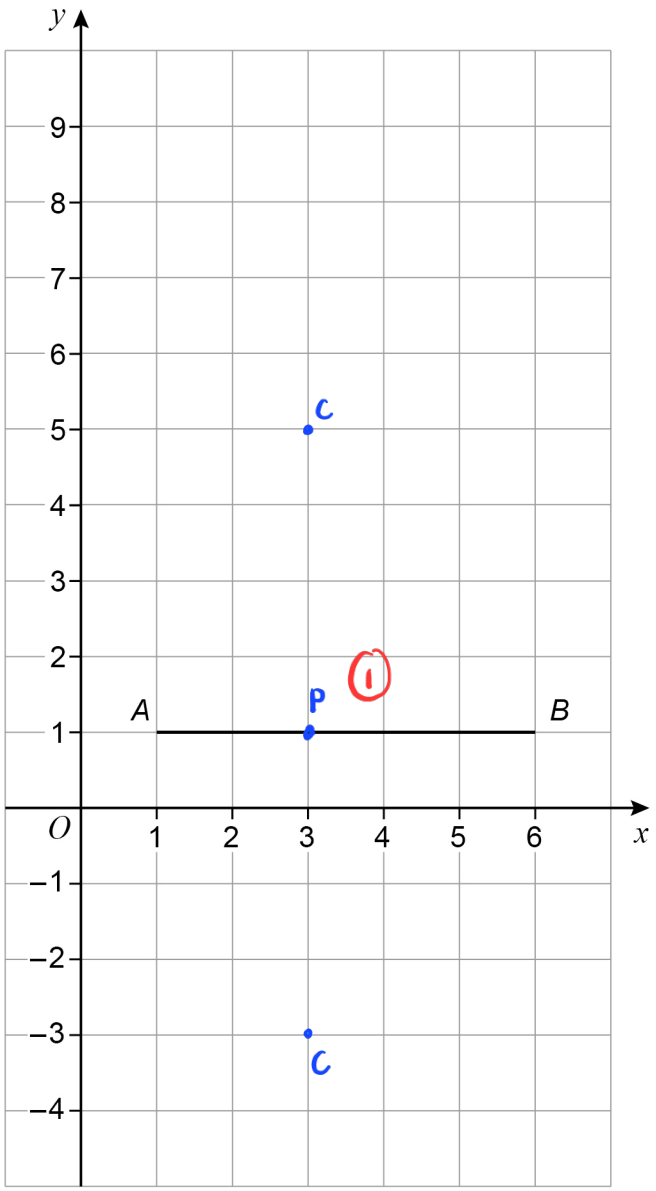
1 A line joins A (1, 1) and B (6, 1) on a centimetre grid.



P is a point on the line AB such that

$AP : PB = 2 : 3$

C is a point such that

angle APC is 90°

and

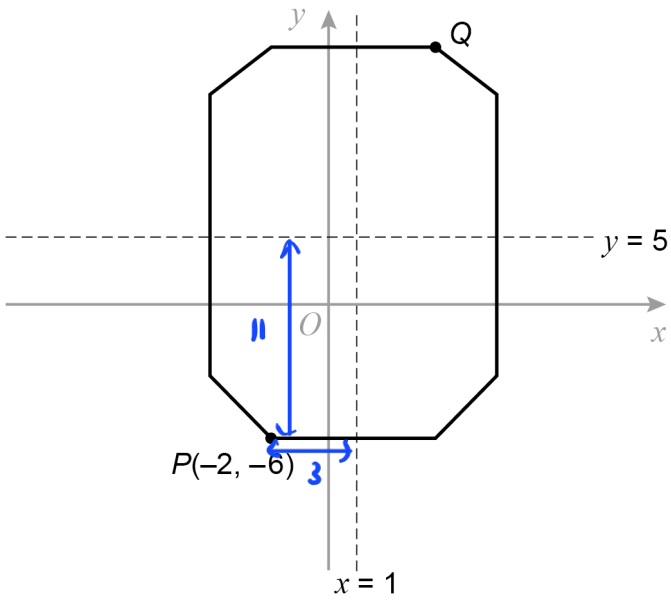
$PC = 4$ cm

Write down the coordinates of the **two** possible points for C.

[3 marks]

Answer (3 , 5) and (3 , −3)

2 The diagram shows an octagon.



Not drawn accurately

$x = 1$ and $y = 5$ are lines of symmetry.

Work out the coordinates of point Q.

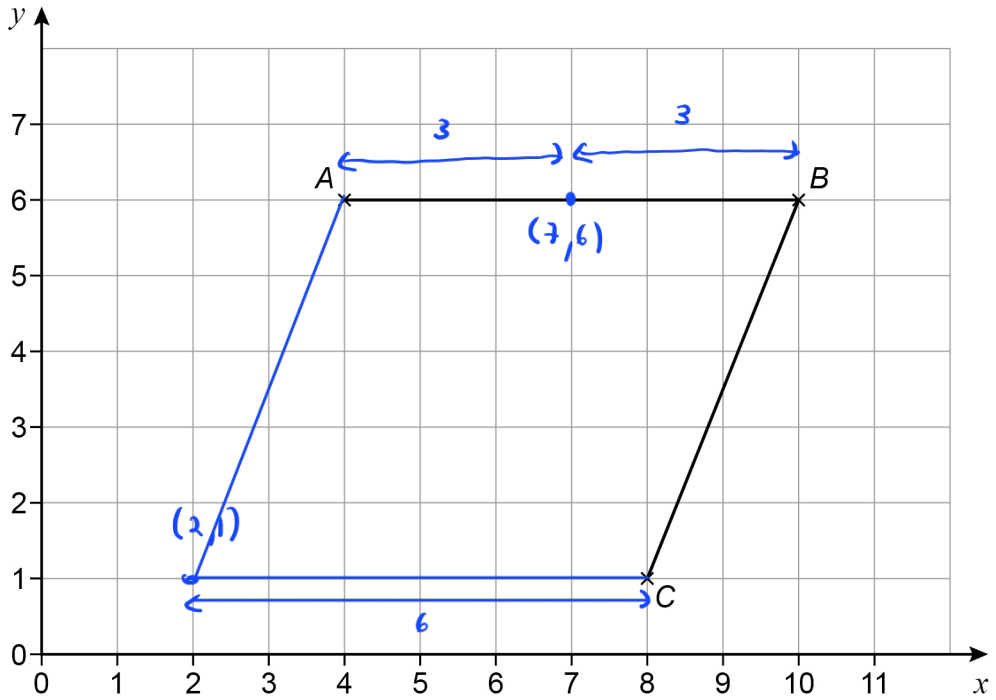
[2 marks]

$x = 1 + 3 = 4$

$y = 5 + 11 = 16$

Answer (4 , 16) (2)

3 Lines *AB* and *BC* are shown.



3 (a) Write down the coordinates of *C*.

[1 mark]

Answer (8 , 1) (1)

3 (b) Write down the coordinates of the midpoint of *AB*.

[1 mark]

Answer (7 , 6) (1)

3 (c) *D* is the point on the grid that makes *ABCD* a parallelogram.

Work out the coordinates of *D*.

[1 mark]

Answer (2 , 1) (1)

3 (d) Write down the equation of the line passing through *A* and *B*.

[1 mark]

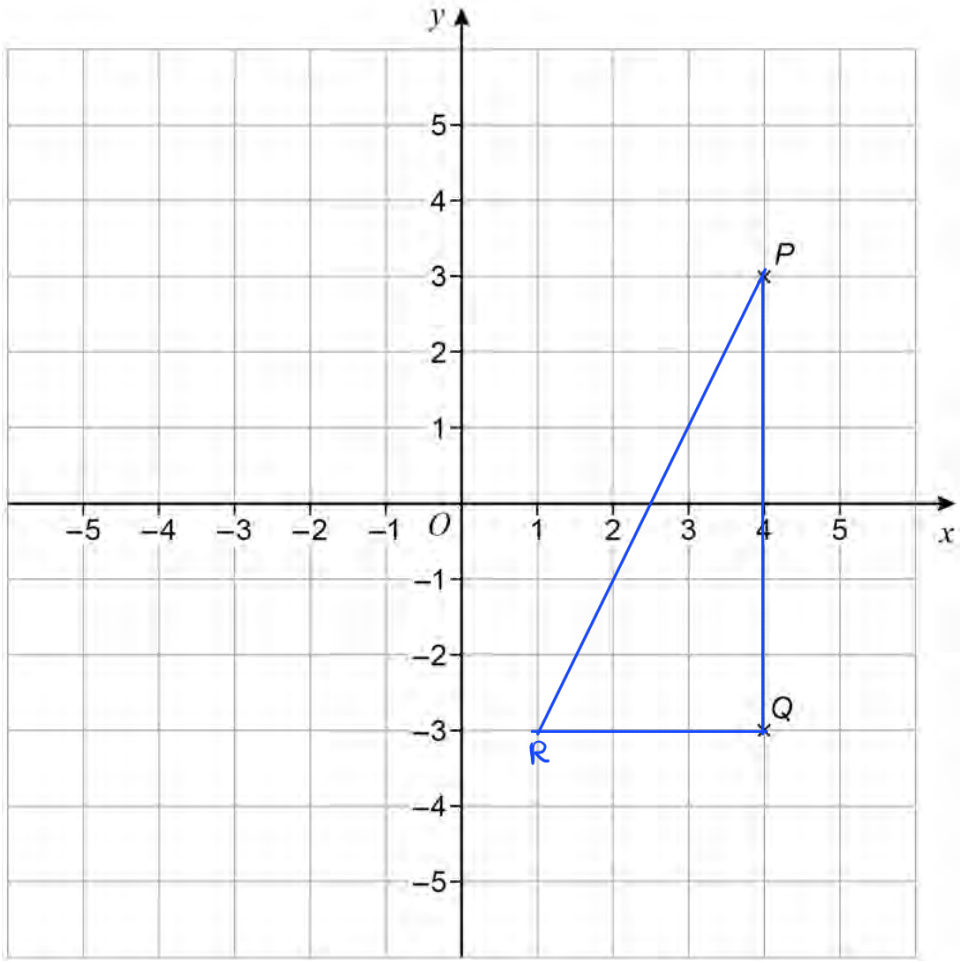
Answer y = 6 (1)

4 (a) Write down the coordinates of the y-intercept of the line $y = 3x + 8$

[1 mark]

Answer (0 , 8) (1)

5 Points *P* and *Q* are shown on the grid.



5 (a) Write down the coordinates of *P*.

[1 mark]

Answer (4 , 3) (1)

5 (b) Angle *PQR* is a right angle.

Work out possible coordinates for *R*.

[1 mark]

Answer (1 , −3) (1)

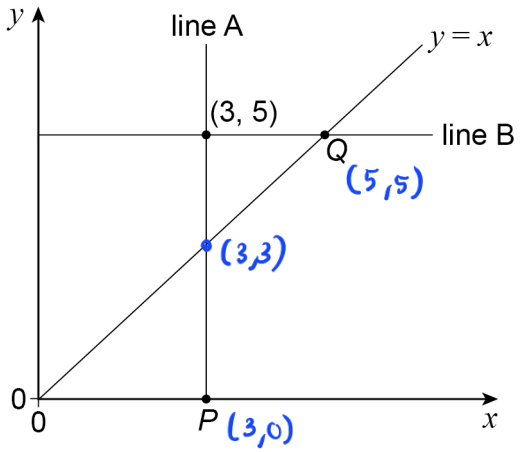
6 The sketch shows

the line $y = x$

line A, which is vertical

line B, which is horizontal.

The point (3, 5) is on both line A and line B.



Write down the coordinates of *P* and *Q*.

[2 marks]

P (3 , 0) (1) *Q* (5 , 5) (1)

7 The equation of a line is $y = 3x - 6$

Circle the coordinates of the y-intercept.

[1 mark]

(0, –6) (–6, 0) (0, 3) (3, 0)

8 *P* and *Q* are points.

The x-coordinate of *Q* is 4 **more** than the x-coordinate of *P*.

The y-coordinate of *Q* is 5 **less** than the y-coordinate of *P*.

Work out the gradient of the straight line through *P* and *Q*.

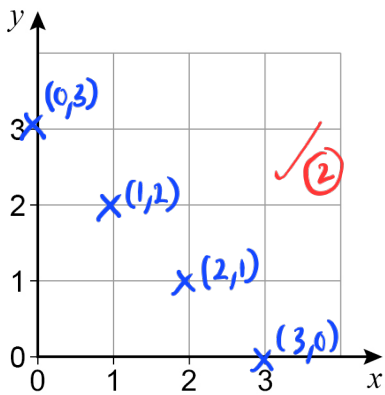
[2 marks]

let P(0,0) , then Q(4,-5)

gradient : $\frac{-5-0}{4-0} = -\frac{5}{4}$

Answer $-\frac{5}{4}$ (2)

9 (a) Here is a different grid.



There are **four** points on this grid that each have

both coordinates that are whole numbers

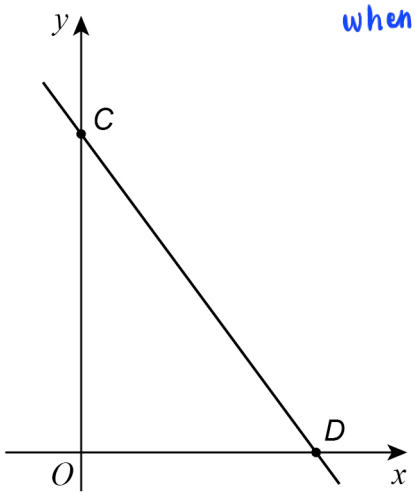
and

x-coordinate + y-coordinate = 3

Plot the **four** points on the grid.

[2 marks]

10 (a) Here is a sketch of the graph $y = -2x + 6$



when $x = 0$, $y = 6$

$y = 0$, $x = 3$

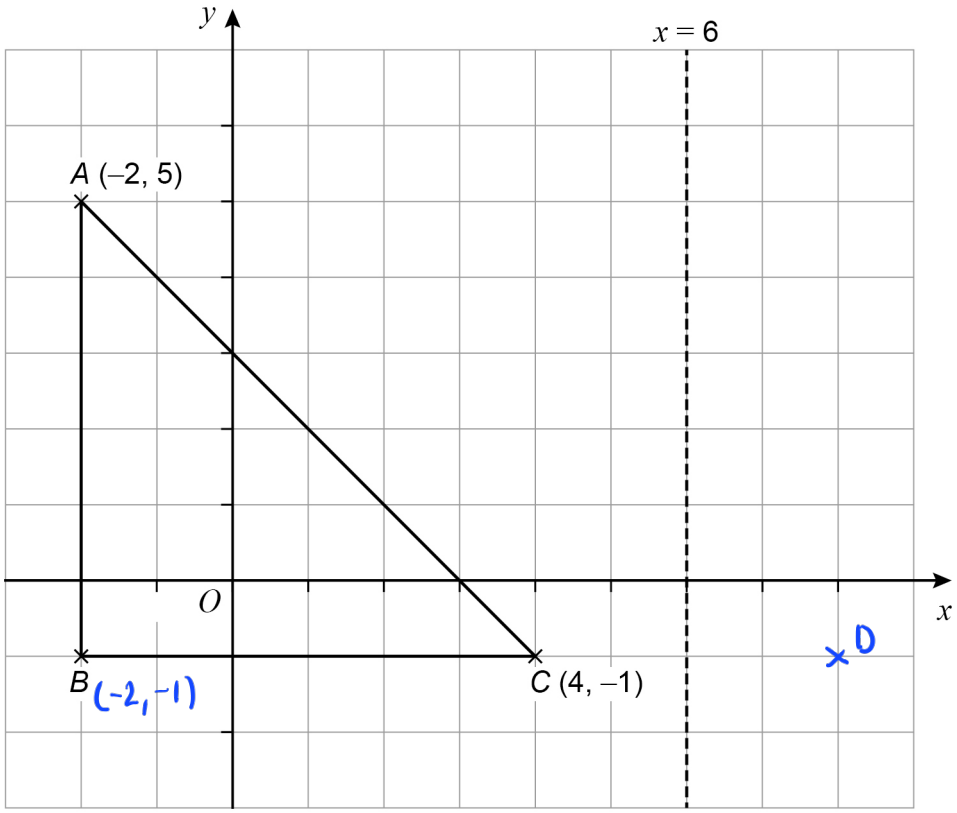
Complete the coordinates of *C* and *D*.

[2 marks]

C (0 , 6) ✓ 1

D (3 , 0) ✓ 1

11



11 (a) Work out the coordinates of *B*.

[1 mark]

Answer (−2 , −1)

11 (b) Point *C* is reflected in the line $x = 6$ to point *D*.

Work out the coordinates of *D*.

[1 mark]

Answer (8 , −1)