

Walt plot the given points

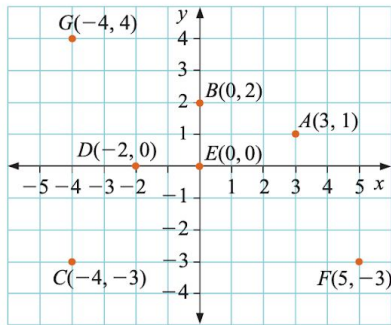
Success criteria I can read the cartesian's plane/ number plane and use x axis and y axis

### EXAMPLE 1

Plot the following points on a number plane.

$A(3, 1)$ ,  $B(0, 2)$ ,  $C(-4, -3)$ ,  $D(-2, 0)$ ,  $E(0, 0)$ ,  $F(5, -3)$ ,  $G(-4, 4)$

The point  $(0, 0)$  is called the origin.



Plot the following points first and then work on writing the pairs for the plotted points

1 Plot the following points on a number plane on grid paper.

a  $A(-3, -5)$

b  $B(2, 6)$

c  $C(5, -2)$

d  $D(6, -1)$

e  $E(1, 1)$

f  $F(-2, -5)$

g  $G(0, 2)$

h  $H(3, 0)$

i  $I(3, -5)$

j  $J(-3, 0)$

k  $K(4, 3)$

l  $L(4, -5)$

m  $M(0, -2)$

n  $N(4, 4)$

o  $O(0, 0)$

p  $P(-3, -2)$

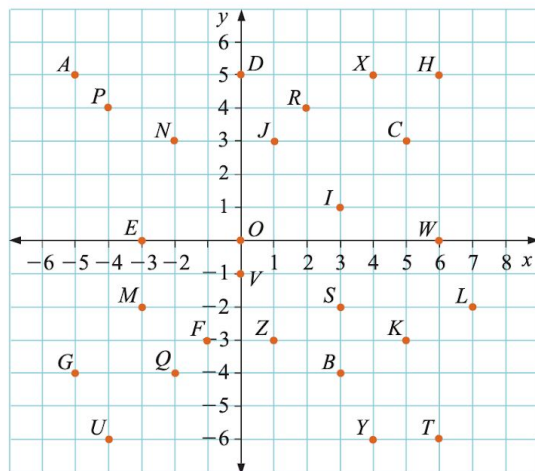
q  $Q(4, -2)$

r  $R(-5, -5)$

s  $S(-5, 2)$

t  $T(-1, 5)$

2 Write the coordinates of the points plotted on this number plane.

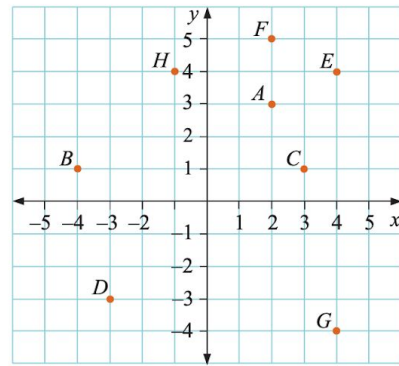


Use the link below to plot points

[Interactive coordinate plots](#)

[Introduction to coordinate geometry](#)

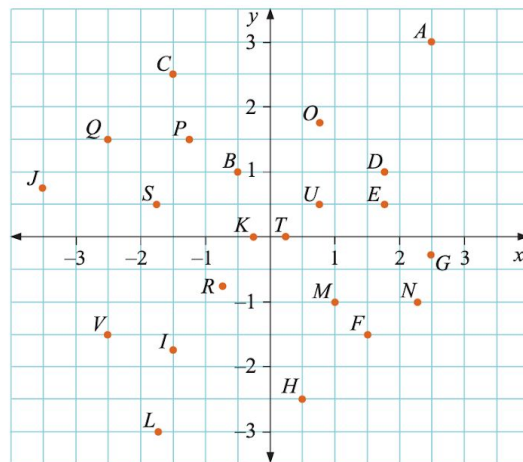
- 3** Eight points have been plotted on this number plane.
- Write the coordinates of the eight points.
  - Name two points with the same  $x$ -coordinates. What do you notice about their positions on the number plane?
  - Name two points with the same  $y$ -coordinates. What do you notice about their positions on the number plane?
  - Name two points that have equal  $x$ - and  $y$ -coordinates. What do you notice about their positions on the number plane?



- Plot the points  $A(-3, 3)$ ,  $B(1, 3)$  and  $C(1, -1)$  on a number plane.
  - If  $ABCD$  is a square, find the coordinates of the point  $D$ .
- Plot the points  $P(-4, 0)$ ,  $Q(-4, 5)$  and  $R(3, 5)$  on a number plane.
  - If  $PQRS$  is a rectangle, find the coordinates of  $S$ .
- Plot the points  $A(-3, -2)$ ,  $B(-2, -1)$ ,  $C(-1, 0)$ ,  $D(0, 1)$ ,  $E(1, 2)$  on the same number plane.
  - Join the points. What do you notice?
  - What are the next three points ( $F$ ,  $G$  and  $H$ ) if the pattern continues?
- Plot the points  $A(5, 3)$ ,  $B(4, 2)$ ,  $C(3, 1)$ ,  $D(2, 0)$ ,  $E(1, -1)$  on the same number plane.
  - What are the next three points ( $F$ ,  $G$  and  $H$ ) if the pattern continues?

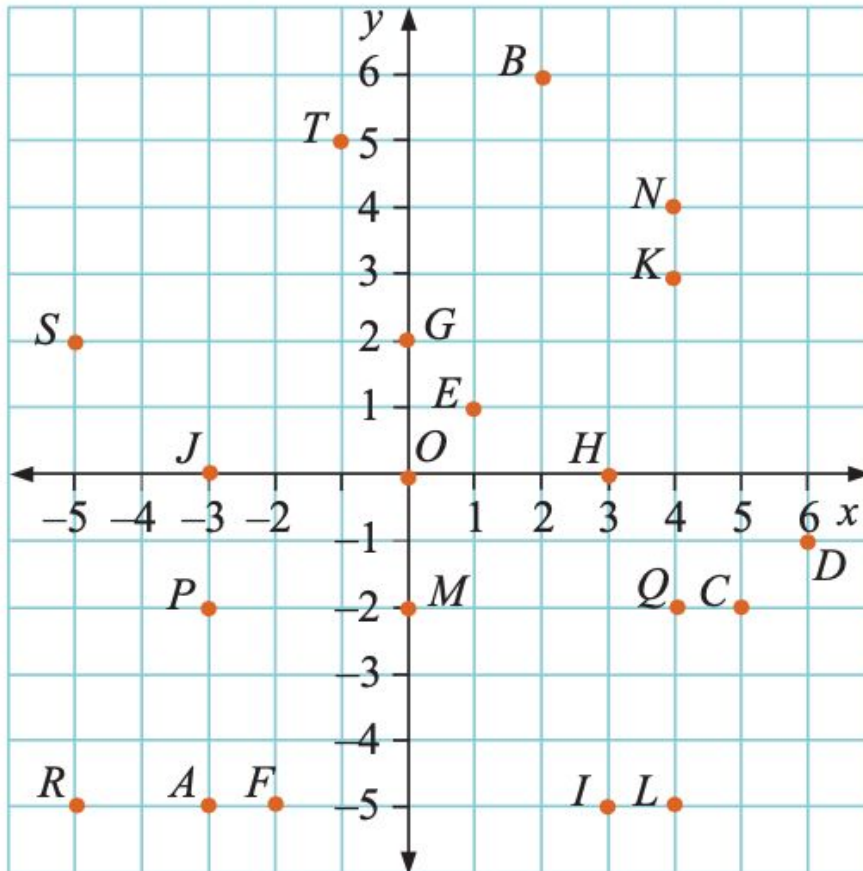
### The numbers may not not be whole numbers

- 8** Write the coordinates of the points on this number plane. The coordinates may not be whole numbers.



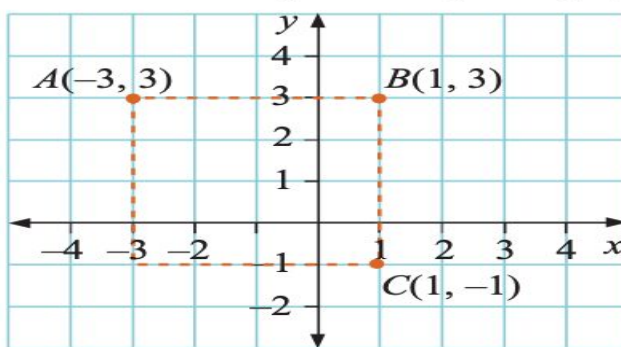
Check your answers

1



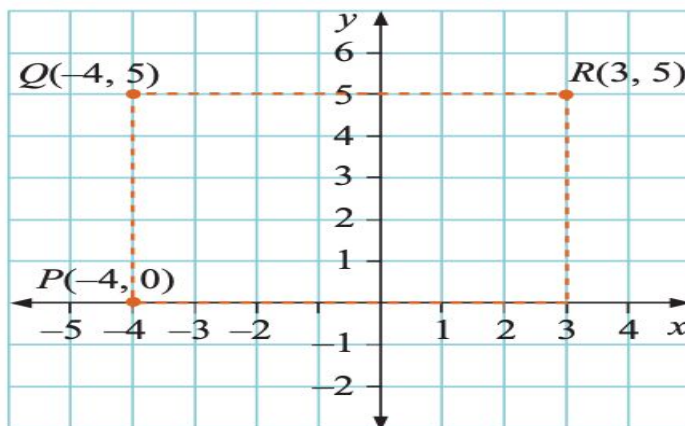
- 2**  $A(-5, 5), B(3, -4), C(5, 3), D(0, 5), E(-3, 0),$   
 $F(-1, -3), G(-5, -4), H(6, 5), I(3, 1), J(1, 3),$   
 $K(5, -3), L(7, -2), M(-3, -2), N(-2, 3), O(0, 0),$   
 $P(-4, 4), Q(-2, -4), R(2, 4), S(3, -2), T(6, -6),$   
 $U(-4, -6), V(0, -1), W(6, 0), X(4, 5), Y(4, -6),$   
 $Z(1, -3)$
- 3 a**  $A(2, 3), B(-4, 1), C(3, 1), D(-3, -3), E(4, 4),$   
 $F(2, 5), G(4, -4), H(-1, 4)$
- b**  $A$  and  $F$  and  $E$  and  $G$  as they are on the same vertical line.
- c**  $B$  and  $C$  and  $E$  and  $H$  as they are on the same horizontal line.
- d**  $D$  and  $E$  as they are diagonally opposite each other.

4 a



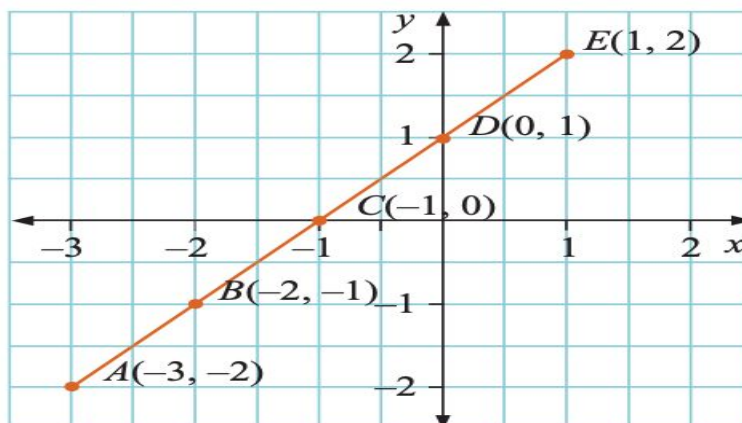
b  $D(-3, -1)$

5 a



b  $S(3, 0)$

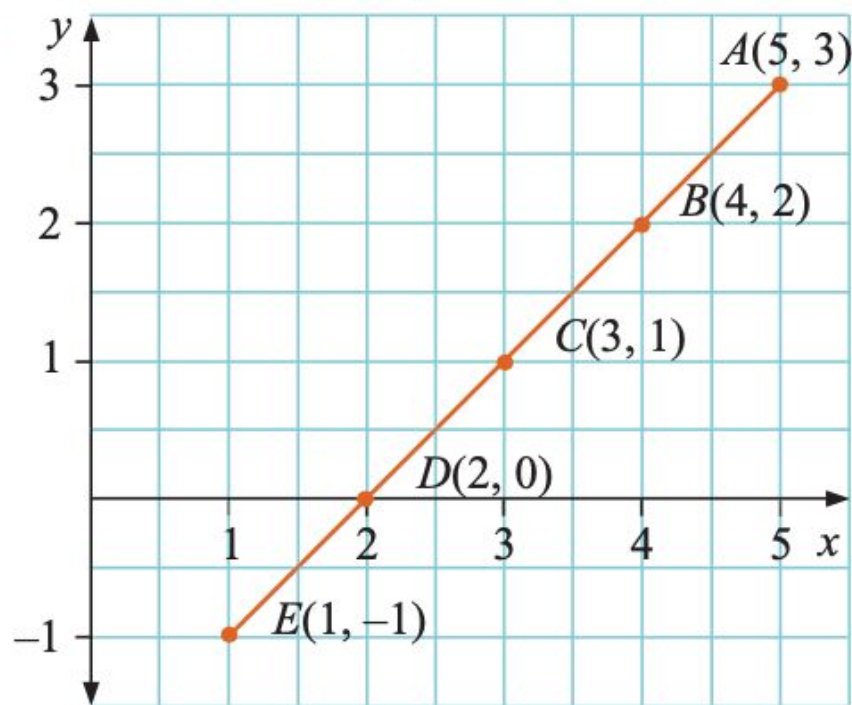
6 a



b They are on a straight line.

c  $F(2, 3)$ ,  $G(3, 4)$ ,  $H(4, 5)$

7 a



b  $F(0, -2)$ ,  $G(-1, -3)$ ,  $H(-2, -4)$

- 8  $A(2\frac{1}{2}, 3)$ ,  $B(-\frac{1}{2}, 1)$ ,  $C(-1\frac{1}{2}, 2\frac{1}{2})$ ,  $D(1\frac{3}{4}, 1)$ ,  $E(1\frac{3}{4}, \frac{1}{2})$ ,  
 $F(1\frac{1}{2}, -1\frac{1}{2})$ ,  $G(2\frac{1}{2}, -\frac{1}{4})$ ,  $H(\frac{1}{2}, -2\frac{1}{2})$ ,  $I(-1\frac{1}{2}, -1\frac{3}{4})$ ,  
 $J(-3\frac{1}{2}, \frac{3}{4})$ ,  $K(-\frac{1}{4}, 0)$ ,  $L(-1\frac{3}{4}, -3)$ ,  $M(1, -1)$ ,  
 $N(2\frac{1}{4}, -1)$ ,  $O(\frac{3}{4}, 1\frac{3}{4})$ ,  $P(-1\frac{1}{4}, 1\frac{1}{2})$ ,  $Q(-2\frac{1}{2}, 1\frac{1}{2})$ ,  
 $R(-\frac{3}{4}, -\frac{3}{4})$ ,  $S(-1\frac{3}{4}, \frac{1}{2})$ ,  $T(\frac{1}{4}, 0)$ ,  $U(\frac{3}{4}, \frac{1}{2})$ ,  $V(-2\frac{1}{2}, -1\frac{1}{2})$