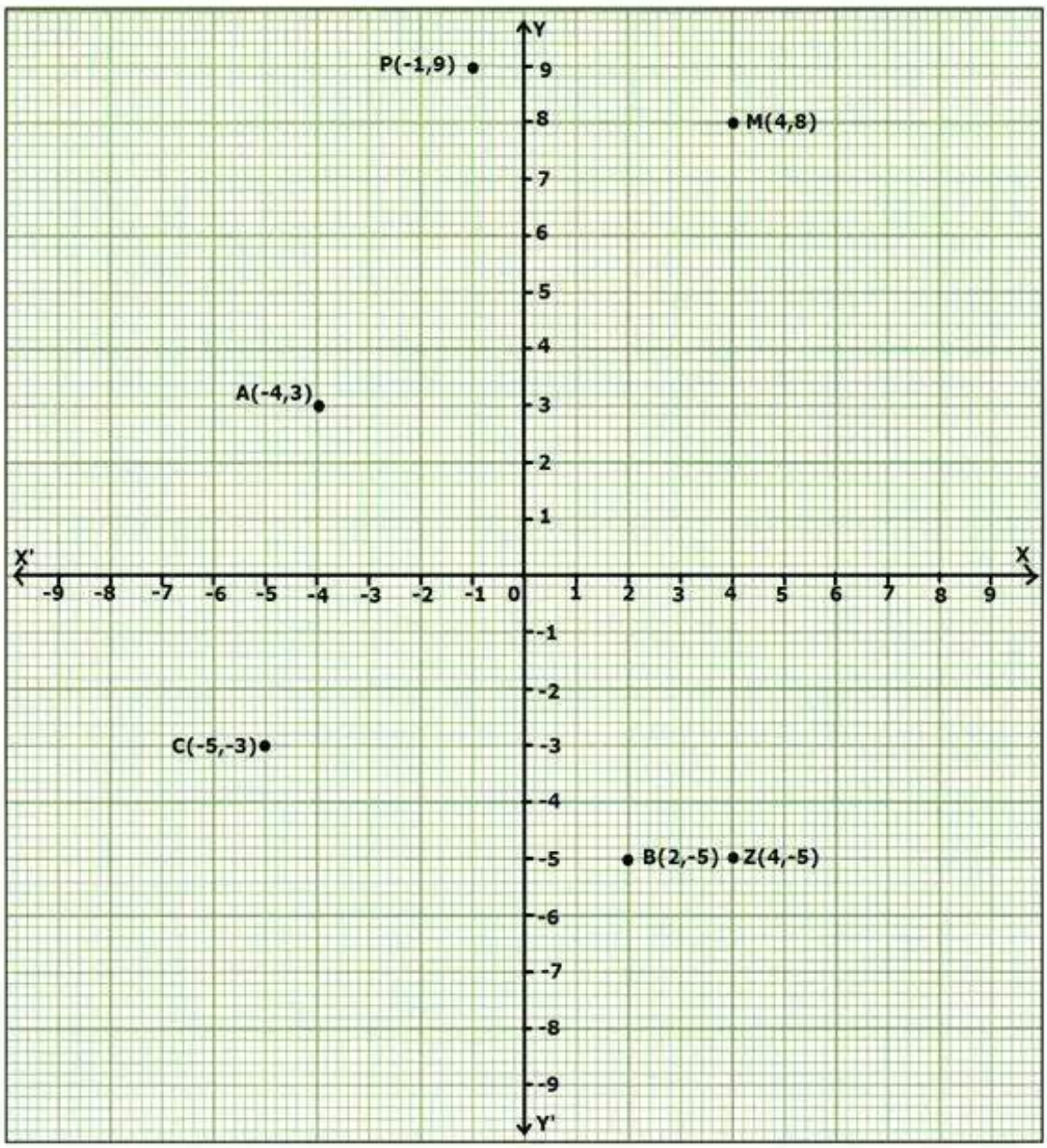
Chapter 28. Coordinate Geometry

Ex 28.1

Answer 2.



The following points lie in:

A(-4,3) : II quadrant

B(2,-5): IV quadrant

C(-5,-3) : III quadrant

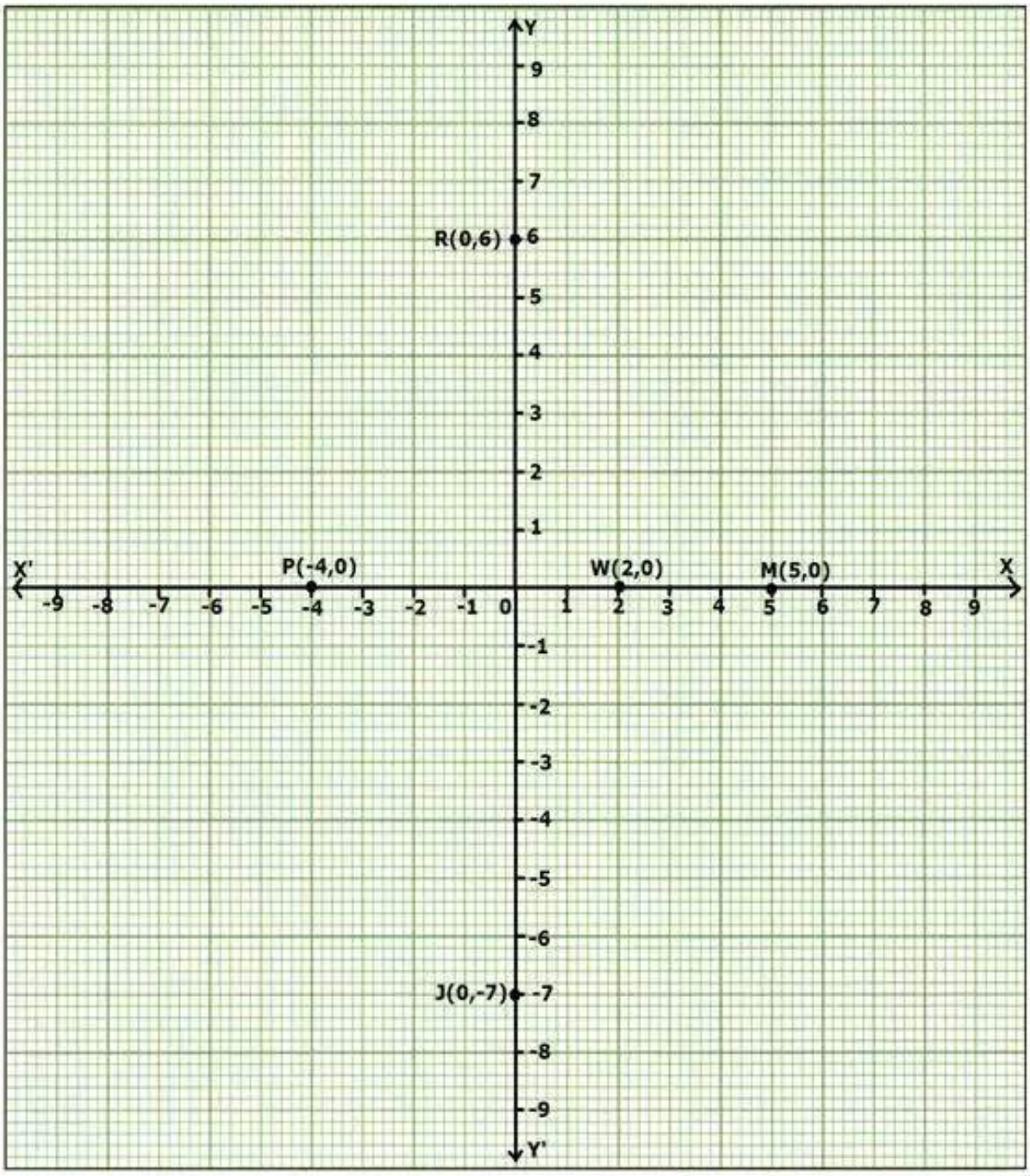
M(4,8) : I quadrant

P(-1,9) : II quadrant

Z(4,-5) : IV quadrant

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 33.



The following points lie on:

J(0,-7): y-axis

M(5,0): x-axis

P(-4,0): x-axis

R(0,6): y-axis

W(2,0): x-axis

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 4.

(i) Abscissa is 6 and ordinate is 2

The co-ordinates of point whose abscissa is 6 and ordinate is 2 is (6,2)

(ii) Abscissa is 0 and ordinate is -3

The co-ordinates of point whose abscissa is 0 and ordinate is -3 is (0,-3)

(iii) Abscissa is 5 and ordinate is -1

The co-ordinates of point whose abscissa is 5 and ordinate is -1 is (5,-1)

(iv) Abscissa is -2 and ordinate is 0

The co-ordinates of point whose abscissa is -2 and ordinate is 0 is (-2,0)

(v) Abscissa is -4 and ordinate is -7

The co-ordinates of point whose abscissa is -4 and ordinate is -7 is (-4,-7)

(vi) Abscissa is 0 and ordinate is 0

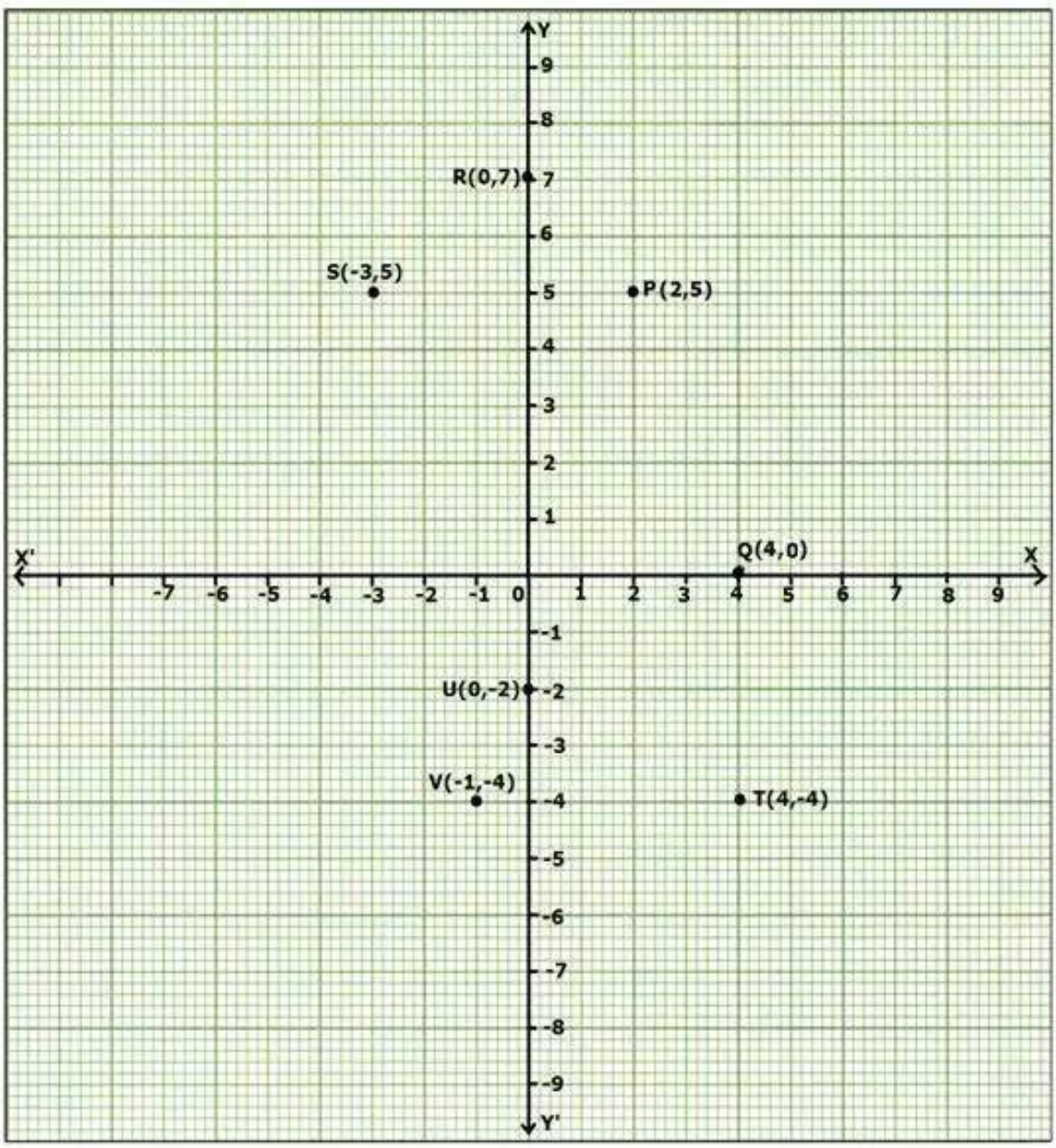
The co-ordinates of point whose abscissa is 0 and ordinate is 0 is (0, 0)

(vii) Abscissa is -7 and ordinate is 4

The co-ordinates of point whose abscissa is-7 and ordinate is 4 is (-7, 4)

Get More Learning Materials Here : CLICK HERE www.studentbro.in

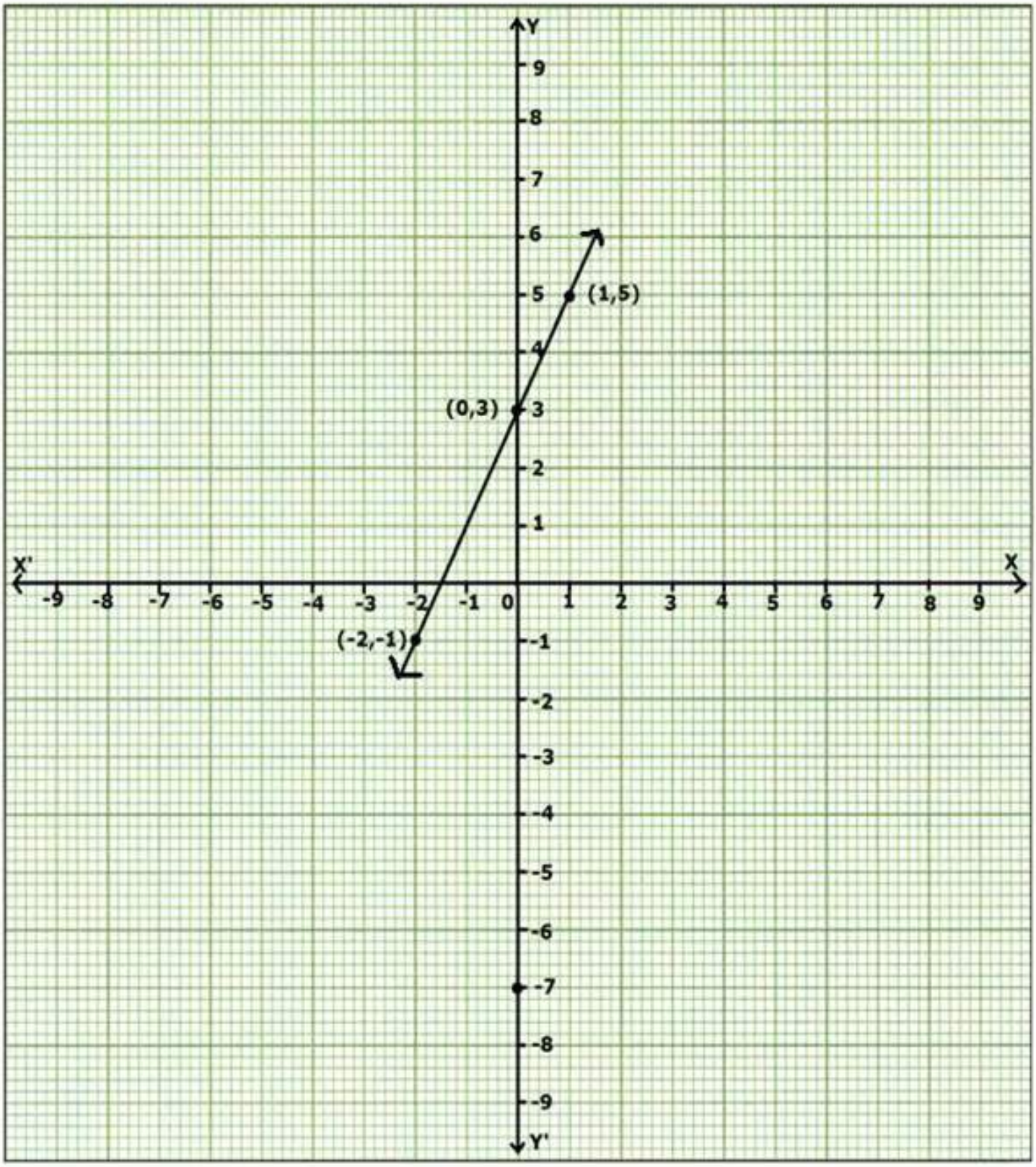
Answer 5.



Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 9.

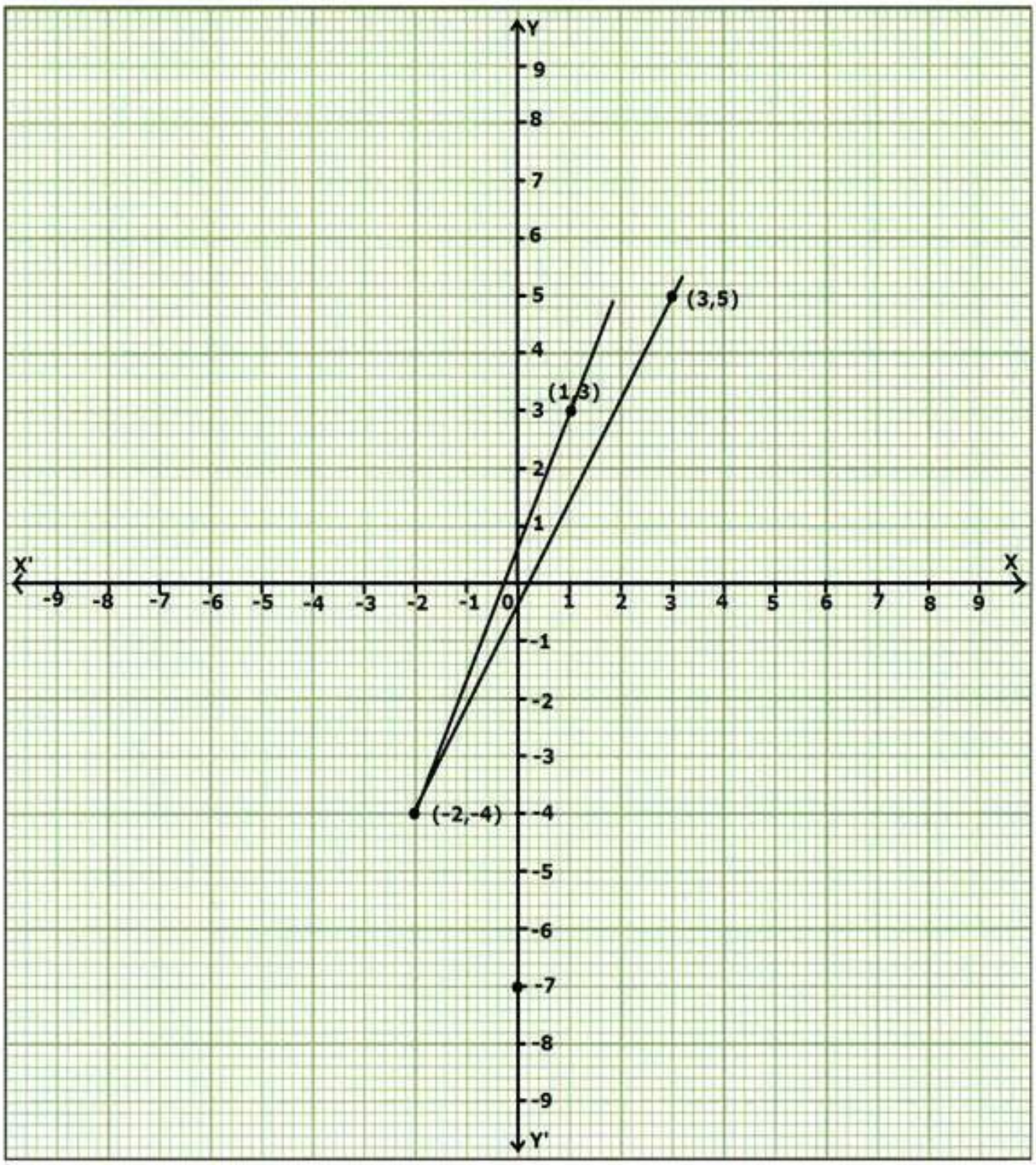
(i) (-2,-1), (0,3) and (1,5)



(-2,-1), (0,3) and (1,5) are collinear points.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

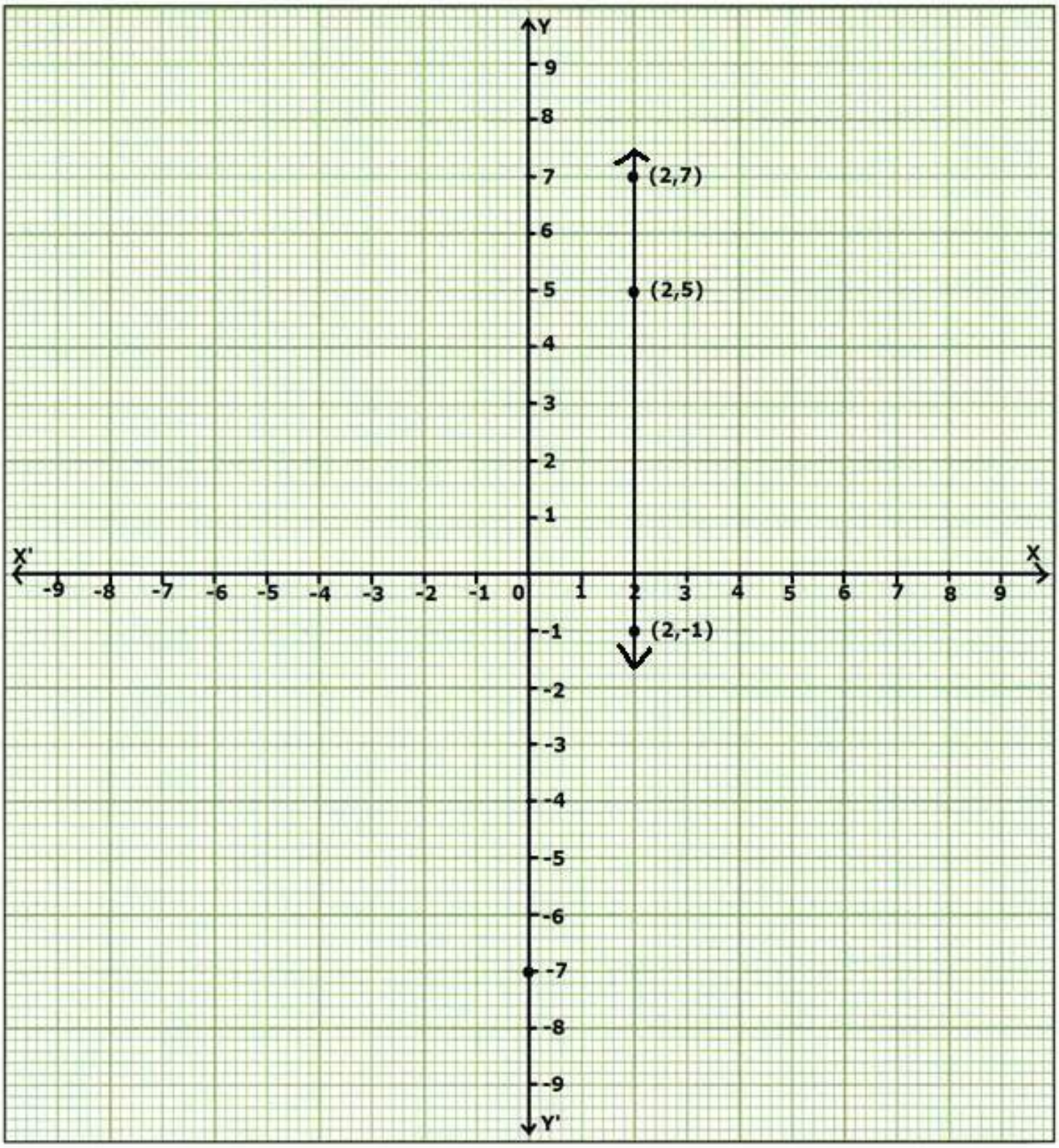
(ii) (1,3), (-2,-4) and (3,5)



(1,3), (-2,-4) and (3,5) are not collinear points.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

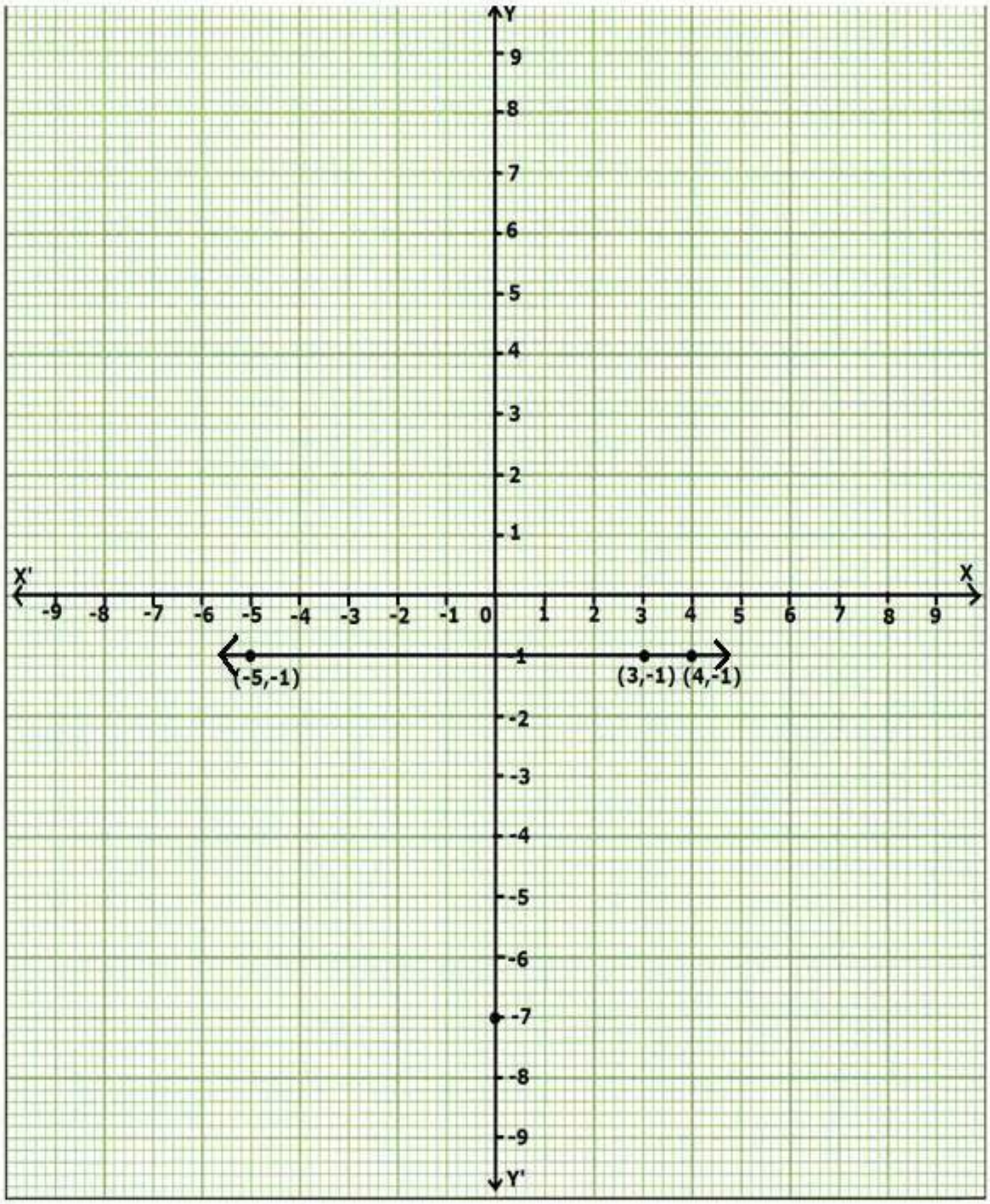
(iii) (2,-1), (2,5) and (2,7)



(2,-1), (2,5) and (2,7) are collinear points.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

(iv) (4,-1), (-5,-1) and (3,-1)



(4,-1), (-5,-1) and (3,-1) are collinear points.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Ex 28.2

Answer 4.

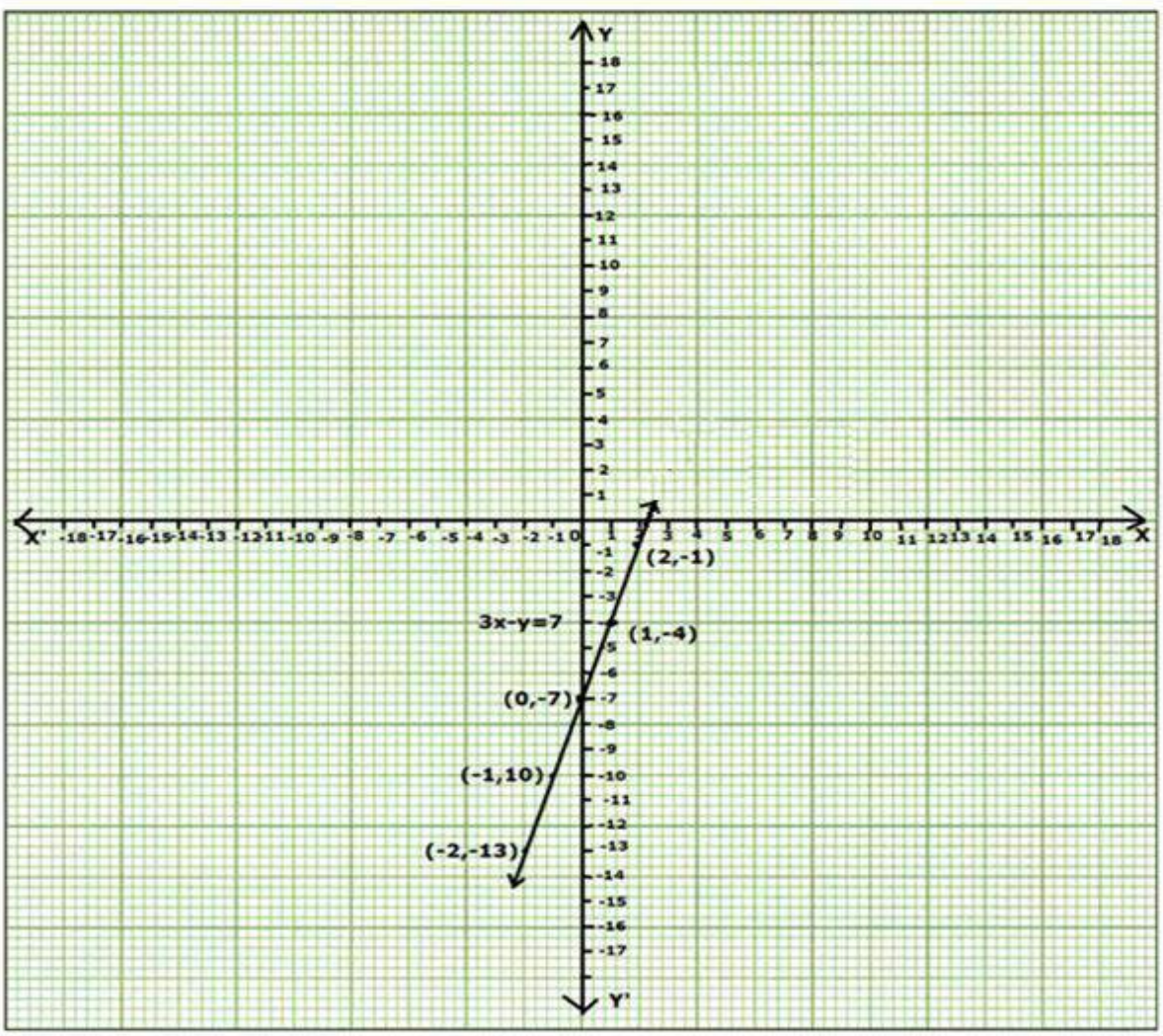
We have $3x - y = 7 \Rightarrow -y = 7 - 3x \Rightarrow y = 3x - 7$

When $x = -2 \Rightarrow y = -6 - 7 = -13$

When $x = 0 \Rightarrow y = -7$

When $x = 2 \Rightarrow y = 6 - 7 = -1$

x	-2	-1	0	1	2
y	-13	-10	-7	-4	-1



Thus ordered pairs of $3x-y=7$ are $\{(-2,-13), (-1,-10), (0,-7), (1,-4), (2,-1)\}$.
Hence graph is as below.

(i) y, when x = 1

From graph we find that y = -4, when x = 1

(ii) x, when y = 8

From graph we find that x = 5, when y = 8

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 5.

We have $2x - 3y = 15 \Rightarrow -3y = 15 - 2x \Rightarrow 3y = 2x - 15 \Rightarrow y = \frac{2x-15}{3}$

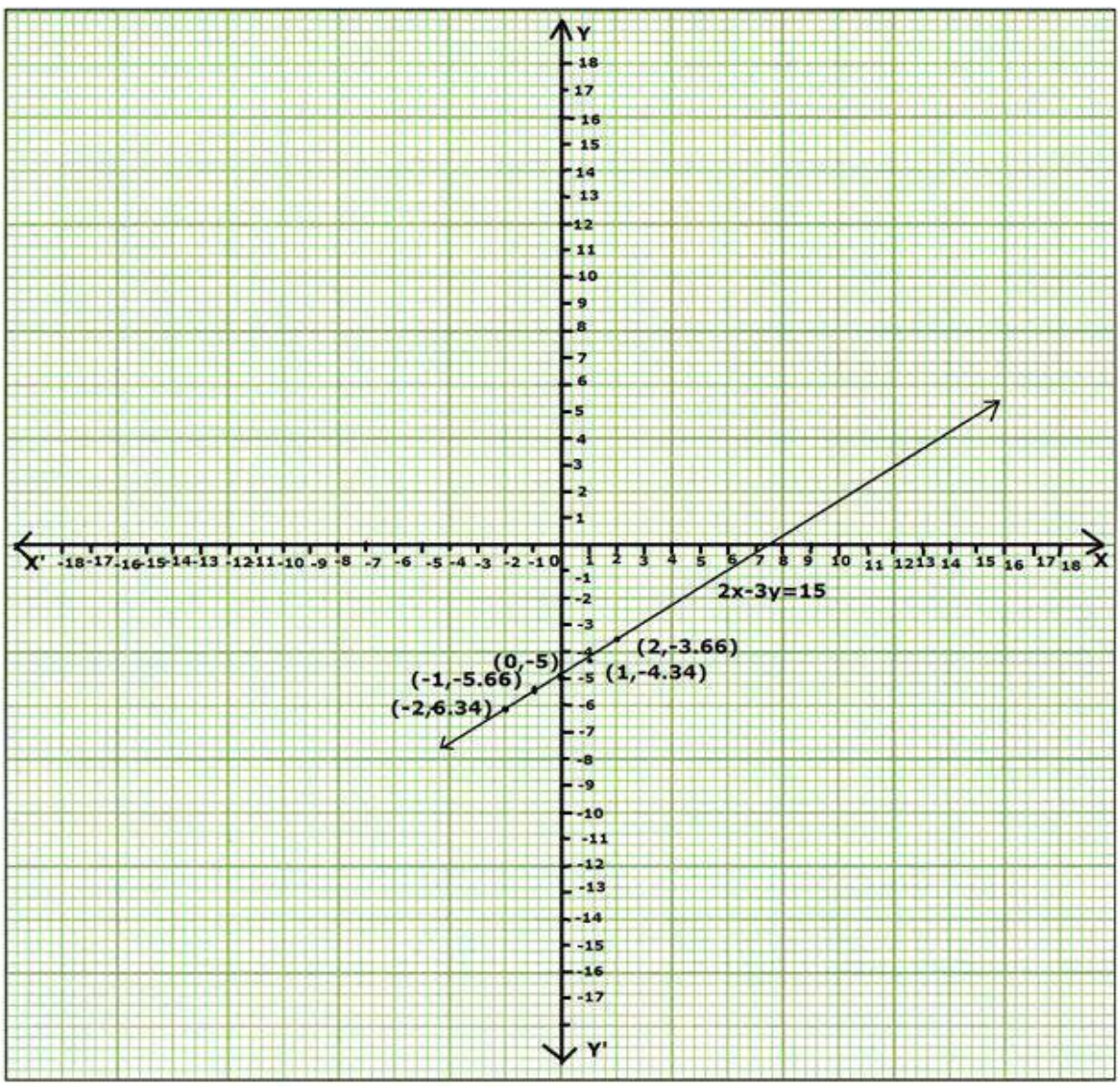
When $x = -2 \Rightarrow y = -\frac{19}{3} = -6.34$

When $x = 0 \Rightarrow y = -\frac{15}{3} = -5$

When $x = 2 \Rightarrow y = -\frac{11}{3} = -3.66$

x	-2	-1	0	1	2
y	-6.34	-5.66	-5	-4.34	-3.66

Thus ordered pairs of 2x-3y=15 are {(-2,-6.34), (-1,-5.66), (0,-5), (1,-4.34), (2,-3.66)}. Hence graph is as below.



(i) x, when y = 3

From graph we find that x = 12, when y = 3

(ii) y, when x = 0

From graph we find that y = -5, when x = 0

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 7.

We have $2x + 3y + 5 = 0 \Rightarrow 2x+3y = -5 \Rightarrow 3y = -5 - 2x \Rightarrow y = \frac{-2x-5}{3}$

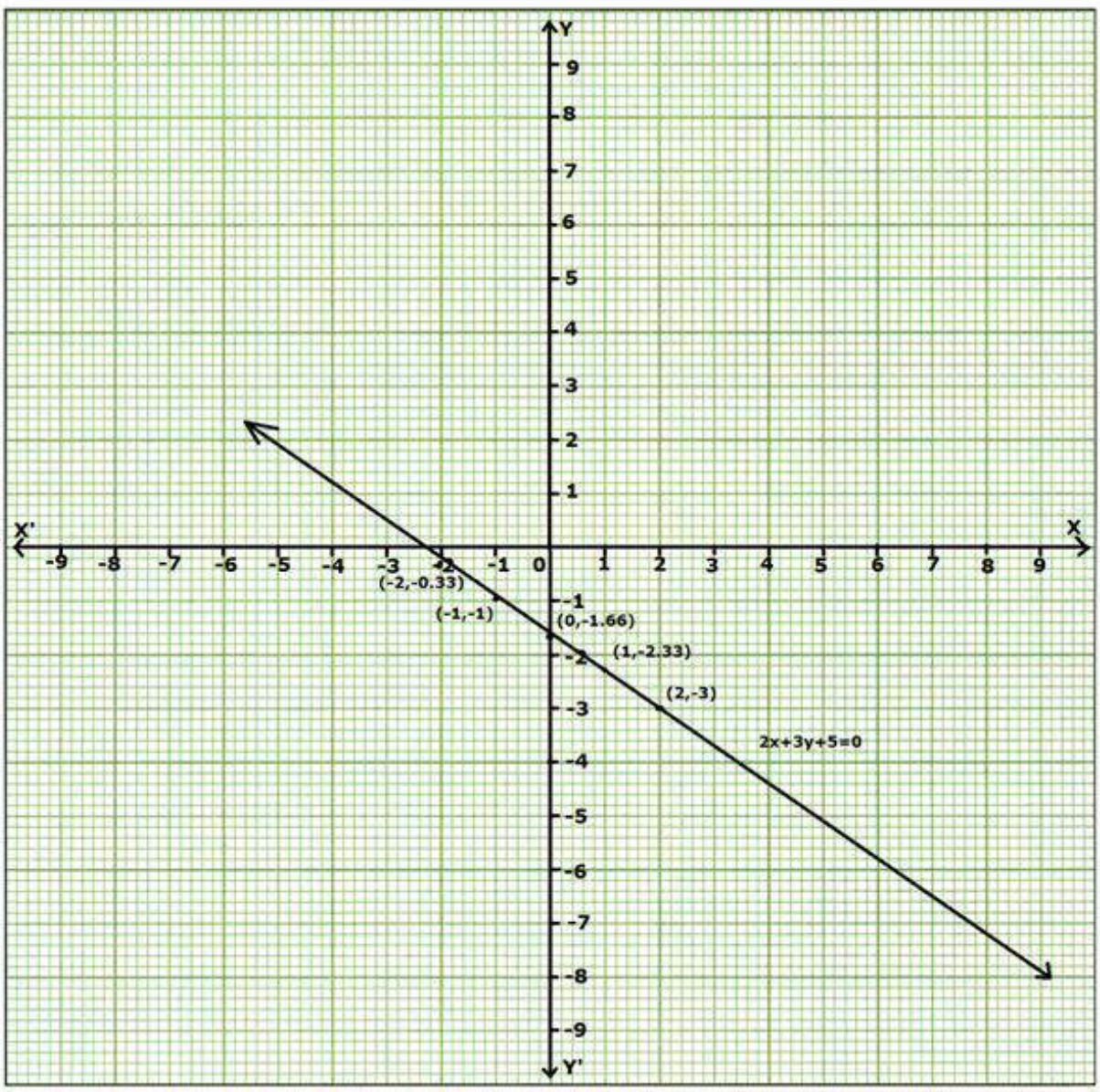
When $x = -2 \Rightarrow y = -\frac{1}{3} = 0.33$

When $x = 0 \Rightarrow y = -\frac{5}{3} = -1.66$

When $x = 2 \Rightarrow y = -\frac{9}{3} = -3$

x	-2	-1	0	1	2
y	-0.33	-1	-1.66	-2.33	-3

Thus ordered pairs of $2x+3y+5=0$ are $\{(-2,-0.33), (-1,-1), (0,-1.66), (1,-2.33), (2,-3)\}$. Hence graph is as below.



(i) x, when y = -3

From graph we find that x = 2, when y = -3

(ii) y, when x = 8

From graph we find that y = -7, when x = 8

Get More Learning Materials Here : CLICK HERE www.studentbro.in

We have $x + y = 4 \Rightarrow y = 4 - x$

When $x = -2 \Rightarrow y = 4+2 = 6$

When $x = 0 \Rightarrow y = 4$

When $x = 2 \Rightarrow y = 4-2 = 2$

x	-2	-1	0	1	2
y	6	5	4	3	2

Thus ordered pairs of $x + y = 4$ are $\{(-2, 6), (-1,5), (0,4), (1, 3), (2,2)\}$.

Also, $2x - y = 2 \Rightarrow -y = 2 - 2x \Rightarrow y = 2x - 2$

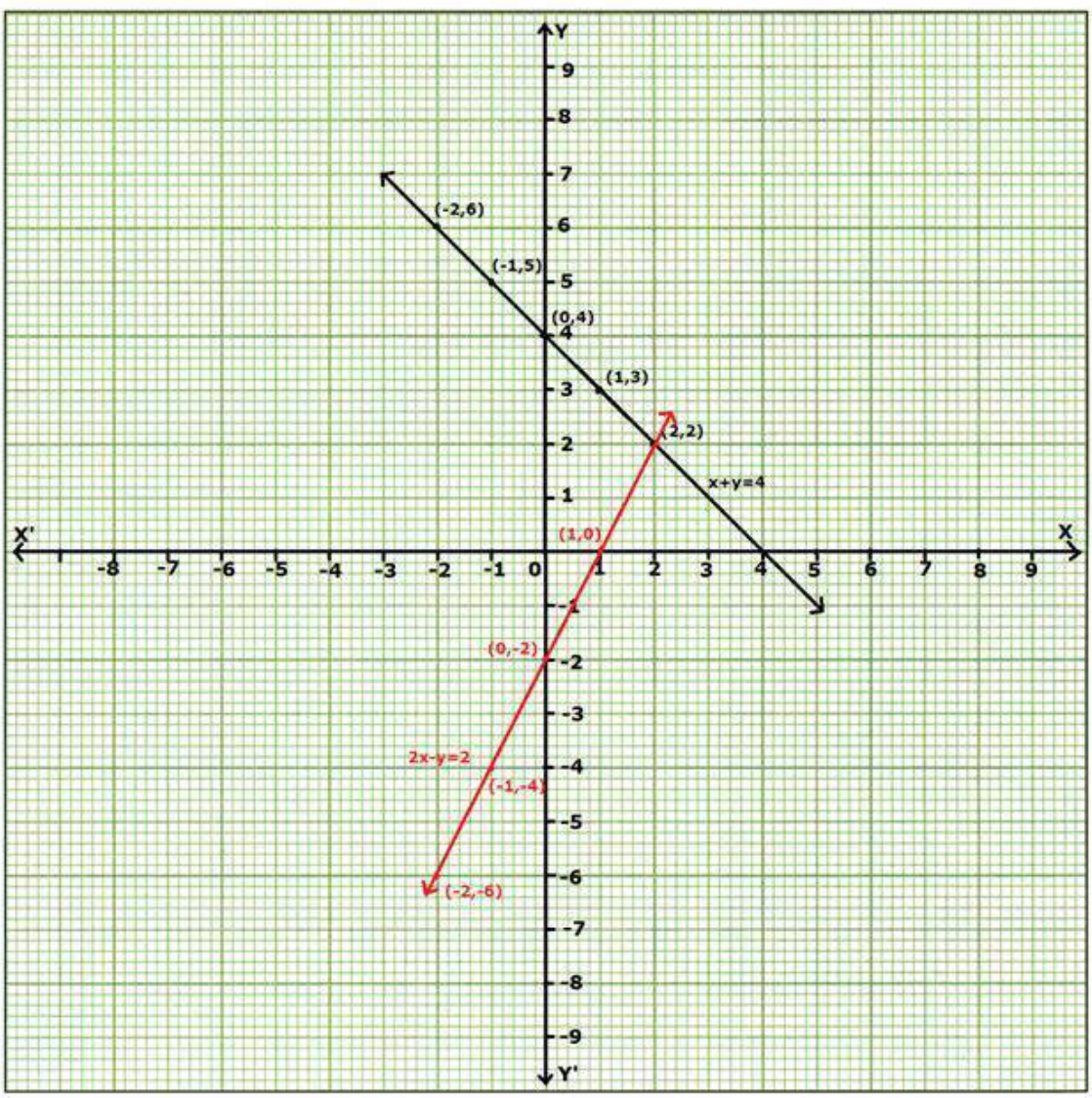
When $x = -2 \Rightarrow y = -4-2 = -6$

When $x = 0 \Rightarrow y = -2$

When $x = 2 \Rightarrow y = 4-2 = -2$

x	-2	-1	0	1	2
y	-6	-4	-2	0	2

Thus ordered pairs of $2x-y=2$ are $\{(-2, -6), (-1,-4), (0,-2), (1, 0), (2,2)\}$.



The point of intersection is (2, 2).

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 8.

We have $5x-3y=1 \Rightarrow -3y = 1-5x \Rightarrow 3y = 5x-1 \Rightarrow y = \frac{5x-1}{3}$

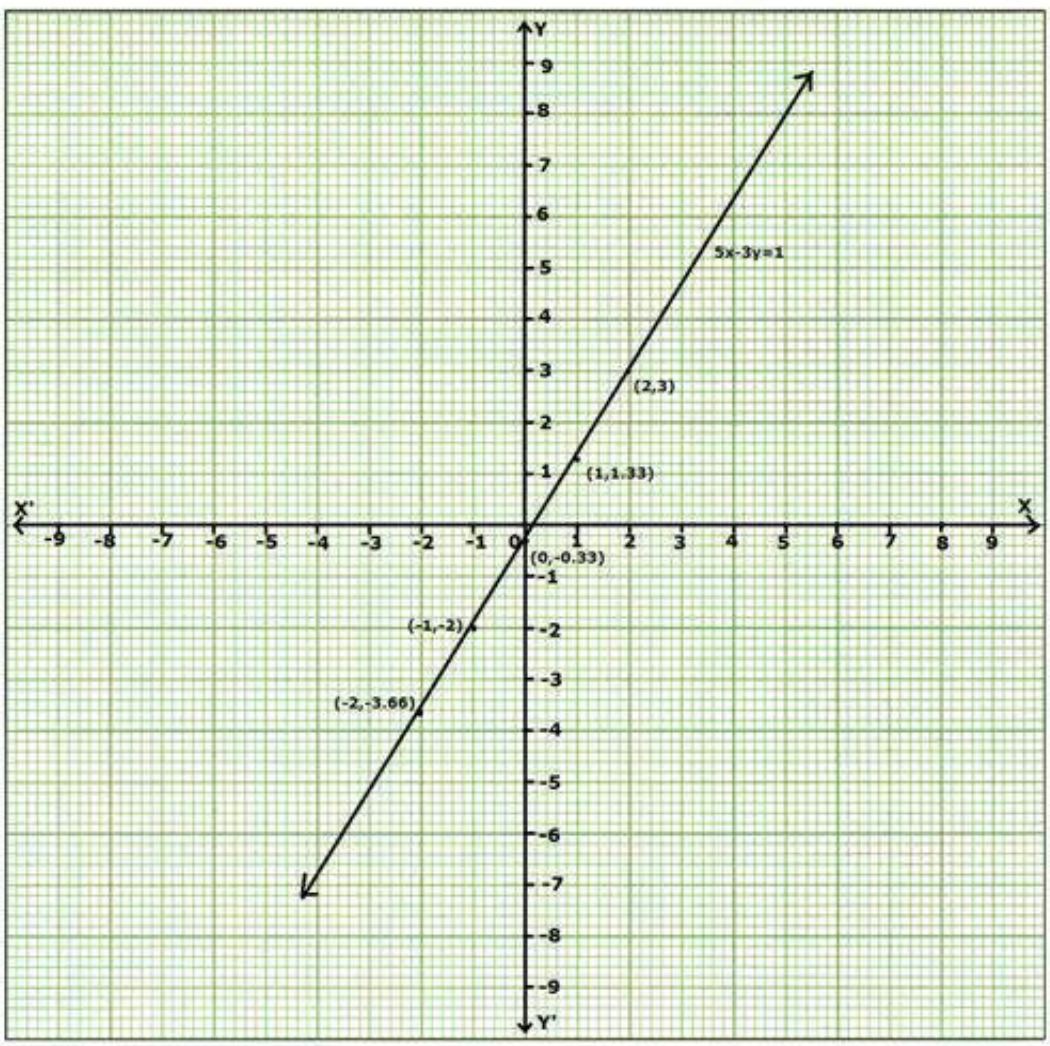
When $x = -2 \Rightarrow y = -\frac{11}{3} = -3.66$

When $x = 0 \Rightarrow y = -\frac{1}{3} = -0.33$

When $x = 2 \Rightarrow y = \frac{9}{3} = 3$

x	-2	-1	0	1	2
y	-3.66	-2	-0.33	1.33	3

Thus ordered pairs of $5x-3y=1$ are $\{(-2,-3.66), (-1,-2), (0,-0.33), (1,1.33), (2,3)\}$. Hence graph is as below.



(i) x, when y = 8

From graph we find that x = 5, when y = 8

(ii) y, when x = 2

From graph we find that y = 3, when x = 2

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 17.

We have $3x - 2y = 4 \Rightarrow -2y = 4 - 3x \Rightarrow 2y = 3x - 4 \Rightarrow y = \frac{3x-4}{2}$

When $x = -2 \Rightarrow y = \frac{-6-4}{2} = -5$

When $x = 0 \Rightarrow y = -\frac{4}{2} = -2$

When $x = 2 \Rightarrow y = \frac{6-4}{2} = 1$

x	-2	-1	0	1	2
y	-5	-3.5	-2	-0.5	1

Thus ordered pairs of $3x - 2y = 4$ are $\{(-2, -5), (-1, -3.5), (0, -2), (1, -0.5), (2, 1)\}$.

Also, $x + y = 3 \Rightarrow y = 3 - x$

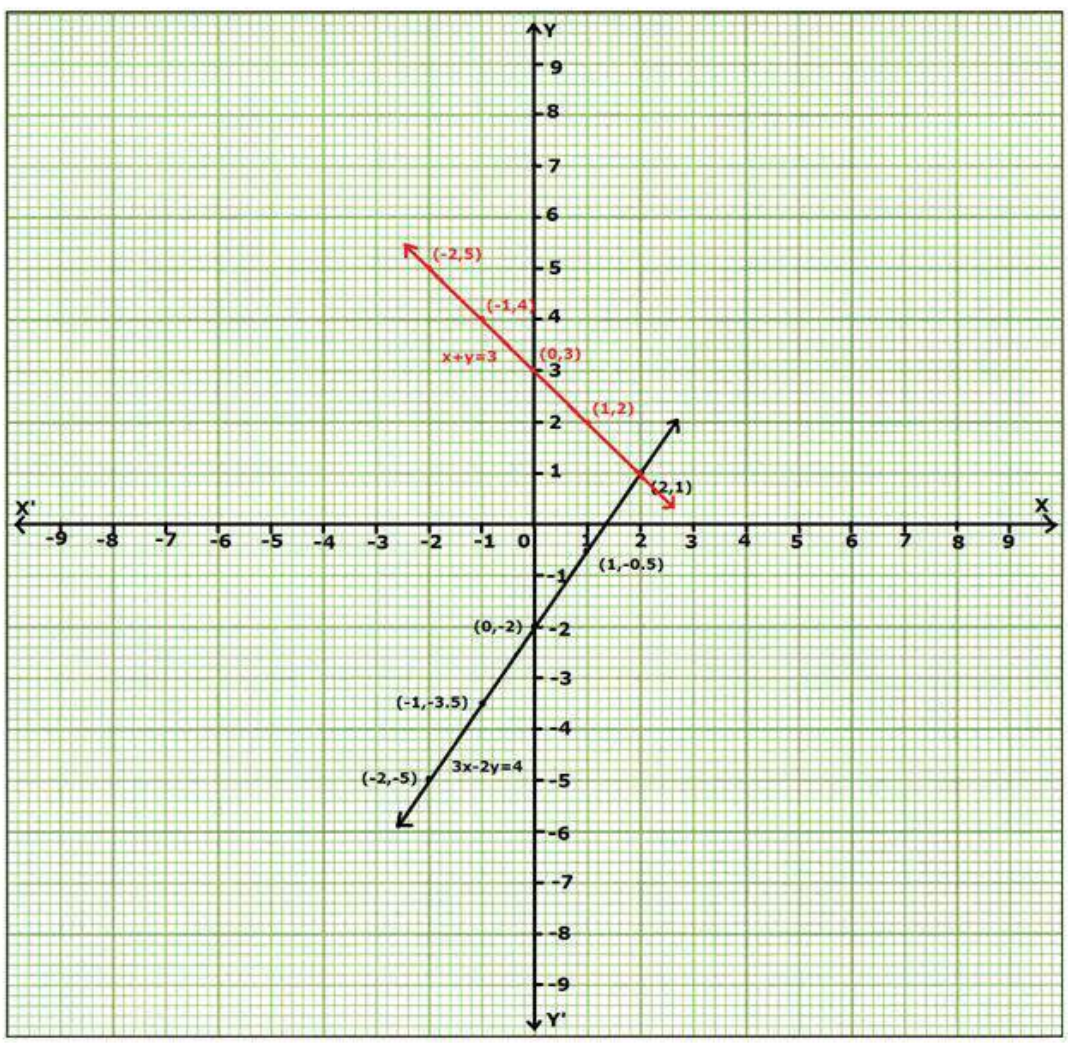
When $x = -2 \Rightarrow y = 4 + 2 = 6$

When $x = 0 \Rightarrow y = 3$

When $x = 2 \Rightarrow y = 4 - 2 = 2$

x	-2	-1	0	1	2
y	5	4	3	2	1

Thus ordered pairs of $x + y = 3$ are $\{(-2, 5), (-1, 4), (0, 3), (1, 2), (2, 1)\}$.



The point of intersection is (2, 1).

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Answer 18.

We have $2x - y = 8 \Rightarrow -y = 8 - 2x \Rightarrow y = 2x - 8$

When $x = -2 \Rightarrow y = -4 - 8 = -12$

When $x = 0 \Rightarrow y = -8$

When $x = 2 \Rightarrow y = 4 - 8 = -4$

x	-2	-1	0	1	2
y	-12	-10	-8	-6	-4

Thus ordered pairs of $2x - y = 8$ are $\{(-2, -12), (-1, -10), (0, -8), (1, -6), (2, -4)\}$.

Also, $4x + 3y = 6 \Rightarrow 3y = 6 - 4x \Rightarrow y = \frac{6 - 4x}{3}$

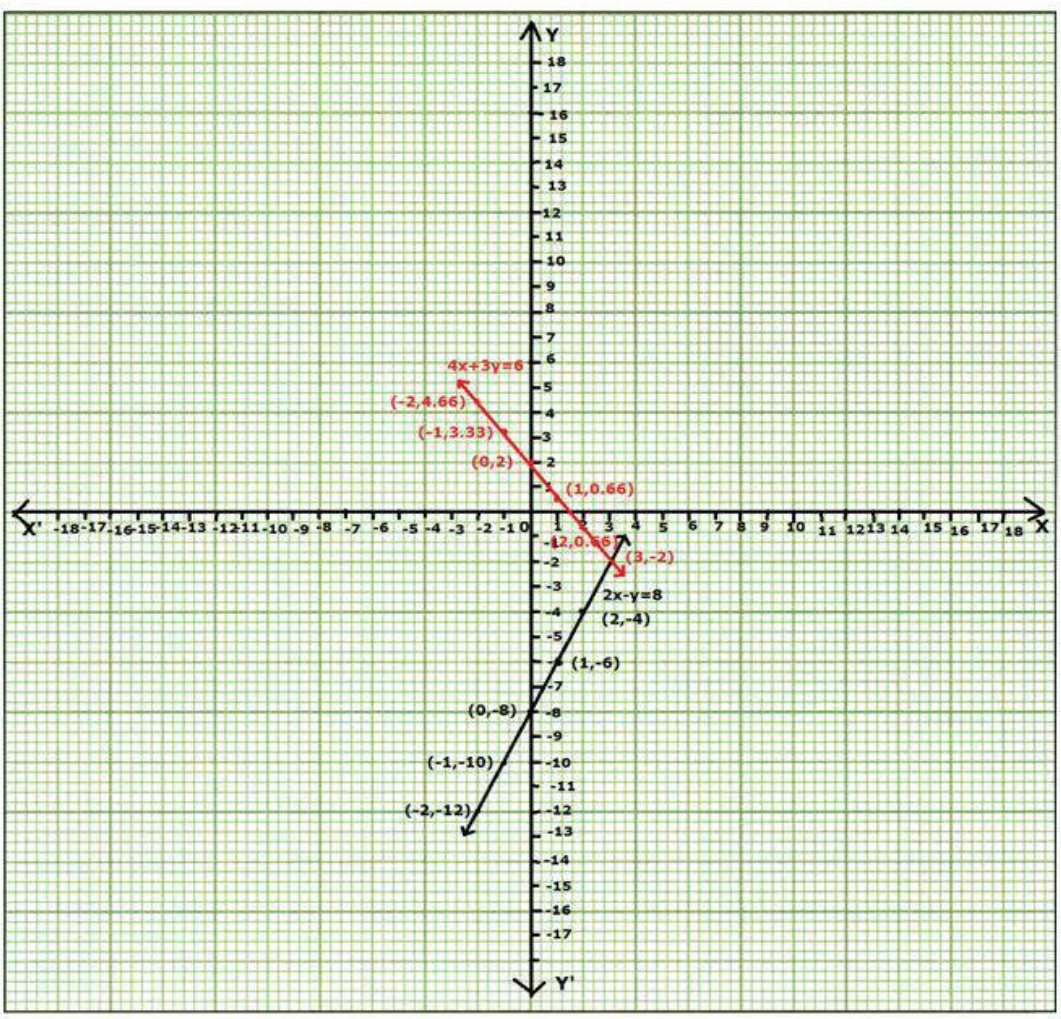
When $x = -2 \Rightarrow y = \frac{6 + 8}{3} = 4.66$

When $x = 0 \Rightarrow y = \frac{6}{3} = 2$

When $x = 2 \Rightarrow y = \frac{6 - 8}{3} = -0.66$

x	-2	-1	0	1	2
y	4.66	3.33	2	0.66	-0.66

Thus ordered pairs of $4x + 3y = 6$ are $\{(-2, 4.66), (-1, 3.33), (0, 2), (1, 0.66), (2, -0.66)\}$.



The point of intersection is (3, -2).

Get More Learning Materials Here : CLICK HERE www.studentbro.in