

CO-ORDINATE GEOMETRY

Class: IX, Mathematics (01)
IIT FOUNDATION.

01. $(-1, -2) \in Q_3$ Since $-1 < 0, -2 < 0$

Ans: B

02. $(2, 0)$ lies on X-axis

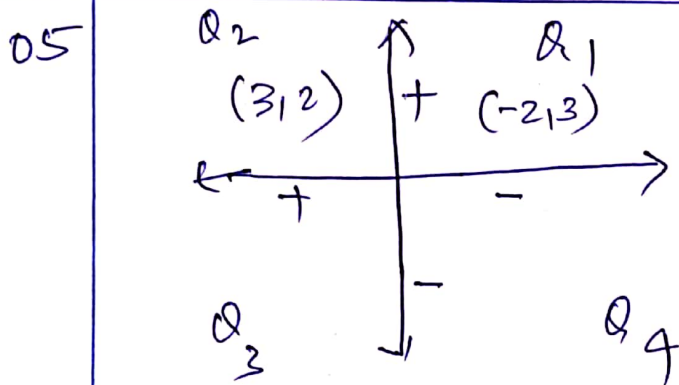
Ans: C

03. $(2, -4) \in Q_4$ Since $2 > 0, -4 < 0$

Ans: B

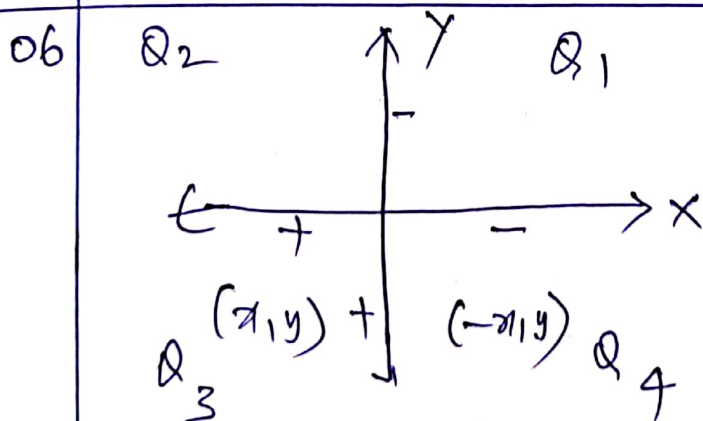
04. $(-2, 0) \in X$ -axis Since y-coordinate is zero

Ans: B



$\therefore (3, 2) \in Q_2$

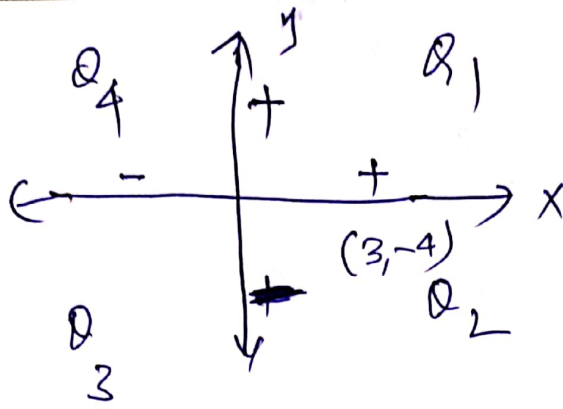
Ans: A



$(-x, y) \in Q_4$

Ans: C

07

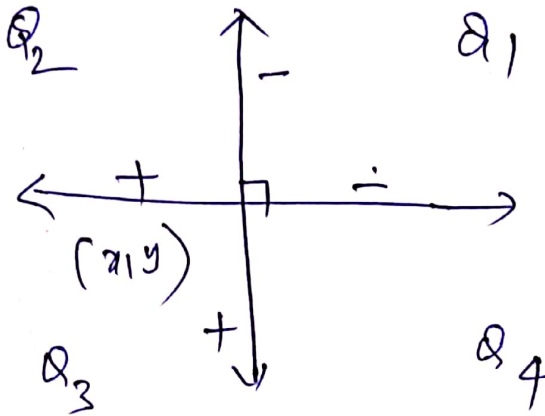


$$(3, -4) \in Q_2$$

Ans: B

(02)

08



$$(x, y) \in Q_3$$

Ans B

09 Quadrant

$$10 \quad (1, 2) \in Q_1, \quad (-2, -3) \in Q_3, \quad (2, -3) \in Q_4$$

Ans: D

$$11. \quad (3, 0), (0, 10) \in X\text{-axis}$$

Ans: B.

$$12 \quad (0, 10), (0, 4), (0, 3) \in Y\text{-axis}$$

Ans: A, B.

$$13. \quad (2, 3), (\sqrt{2}, \sqrt{3}), \left(\frac{1}{2}, \frac{2}{3}\right) \in Q_1$$

$$\text{Since } x > 0, y > 0$$

s.D.: Conceptual (True)

Ans: A, C, D.

14 Statement I: Given points belongs to the x-axis
 Since $y = 0$

Ans: A

Statement II: Conceptual (True)

Ans: A

15 $x < 0 \Rightarrow -x > 0$
 $:(-x, y) \in Q_1$

(03)
Ans: A

16 $x < 0 \Rightarrow -x > 0$
 $y < 0 \Rightarrow -y > 0$
 $(-x, -y) \in Q_1$

Ans: Q₁

17 A(2, 0), B(4, 0)
 $AB = |2 - 4| = |-2| = 2$

Ans: 2

18 A(0, -4), B(0, 4)
 $AB = |-4 - 4| = |-8| = 8$

Ans: 8

- 19 a) $x > 0, y > 0 \Rightarrow (x, y) \in Q_1$
b) $x < 0, y > 0 \Rightarrow (x, y) \in Q_2$
c) $x < 0, y < 0 \Rightarrow (x, y) \in Q_3$
d) $x > 0, y < 0 \Rightarrow (x, y) \in Q_4$

Ans: 1, 2, 3, 4

- 22 a) $(-3, 4) \in Q_2$
b) $(1, 3) \in Q_1$
c) $(-\frac{1}{2}, -\frac{1}{3}) \in Q_3$
d) $(3, -4) \in Q_4$

Ans: 1, 2, 3, 4

- 01. $(0, y) \in y\text{-axis}$ Ans: D

- 02 horizontal line $\rightarrow x\text{-axis}$ Ans: B

- 03 vertical line $\rightarrow y\text{-axis}$ Ans: C

- 04 $(-3, 4) \in Q_2$ Ans: B

- 05 $|y| = |-3| = 3$ Ans: C

- 06 $|x| = |-3| = 3$ Ans: B

- 07 Origin = $(0, 0)$ Ans: C

- 08 $(-x, 0) \in \text{Negative } x\text{-axis}$ Ans: B

- 09 $(0, 0) \in \text{Neither any quadrant}$ Ans: D

- 10 $\odot x \neq 0, y \neq 0, (x, y)$ belongs to any one of the quadrants depending upon the sign of x and y

* JEE MAINS LEVEL *

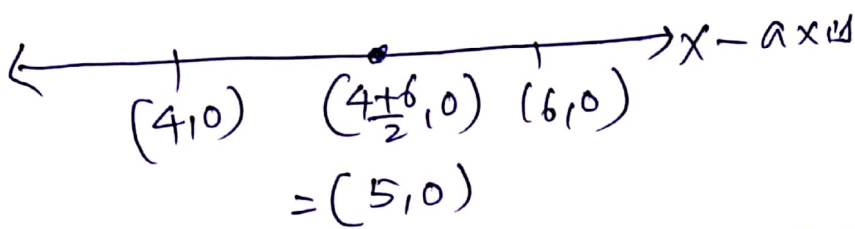
- Q1 $2x+1=0 \Rightarrow x = -\frac{1}{2}$
 $y-1=0 \Rightarrow y=1$
 $\therefore (x, y) = (-\frac{1}{2}, 1)$ Ans: D

- Q2 $A(-3, 2), B(2, 2)$
 $AB = |x_2 - x_1| = |2 - (-3)| = |2+3| = 5$ Ans: C

- Q3 $P(4, 2), Q(4, -5)$
 $PQ = |y_2 - y_1| = |-5 - 2| = |-7| = 7$ Ans: B

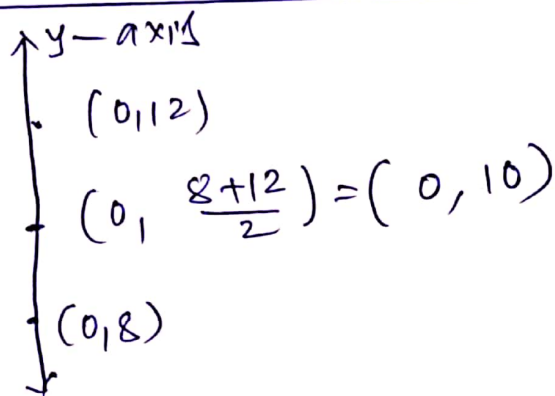
04 $A(4,0), B(6,0)$

(5)



Ans: D

05



Ans: B

06 $(x,y) \in Q_2$ $(-, +)$
 $\Rightarrow x < 0, y > 0$

Ans: C

07 $(-10,0) \in$ Negative x-axis

Ans: C

08 Any number

Ans: D

09 ordinates = 0

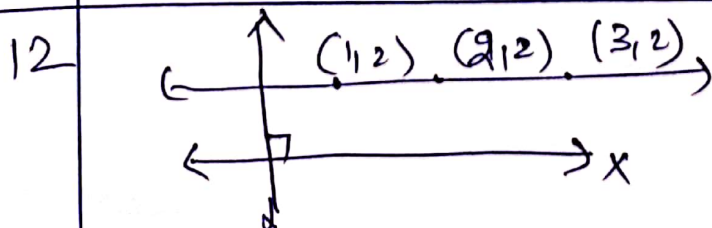
Ans: B

10 $(x,y) \in I \& IV$
 when $x > 0$

Ans: D

11 $(x,y) \in Q_3$
 $\Rightarrow x < 0, y < 0$

Ans: A, C



Both statements are true

Ans: A

13 $x > 0, y > 0, (-x, -y) \in Q_3$

06

Ans: C

14 $x+1=0 \quad | \quad 2y+1=0$
 $x=-1 \quad | \quad \Rightarrow y = -\frac{1}{2}$

$(-1, -\frac{1}{2}) \in Q_3$

Ans: C

15 $A(3,0), B(7,0)$

mid-point of $AB = P = (\frac{3+7}{2}, 0) = (5,0)$

$C(-2,0), D(-6,0)$

mid-point of $CD = Q = (\frac{-2-6}{2}, 0) = (-4,0)$

$\therefore PQ = |\frac{x_2 - x_1}{2}| = |-4 - 5| = 9$

Ans: 9

16 a) $(3,0) \in$ positive x -axis

b) $(-3,0) \in$ Negative x -axis

c) $(0,3) \in$ positive y -axis

d) $(0,-3) \in$ Negative y -axis

Ans: a, b, c, d

\Rightarrow THE END \in