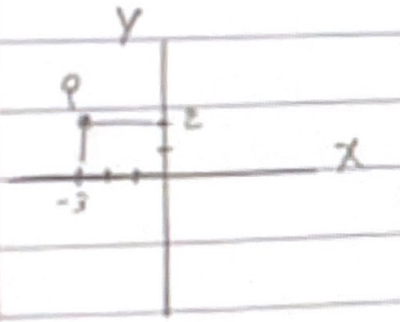
Assignment C2.1 . Pages 154-155 . odds #'s 13-51

13 Plot each point in the xy plane. Tell in which quadrant or coordinate axis each point lies.

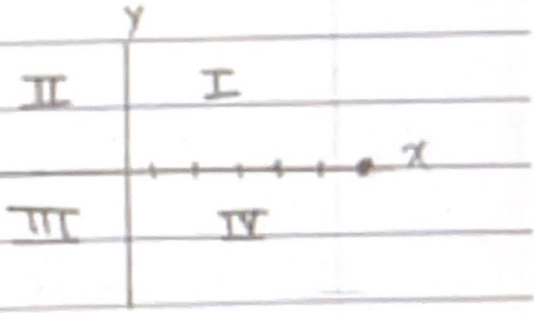
(a) $A = (-3, 2)$
(b) $B = (6, 0)$
(c) $C = (-2, -2)$
(d) $D = (6, 5)$
(e) $E = (0, -3)$
(f) $F = (6, -3)$

(A)

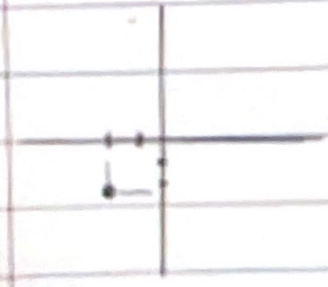


Point lies in the quadrant II

(B)

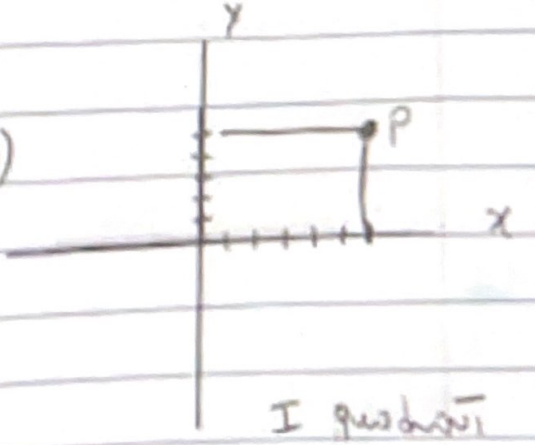


(C)



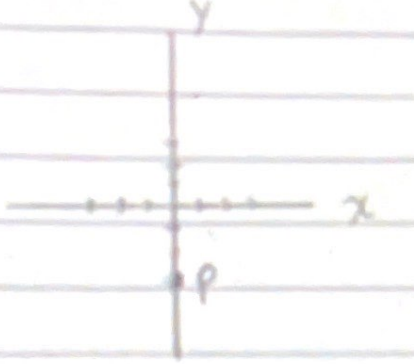
Point lies in the quadrant III

(D)

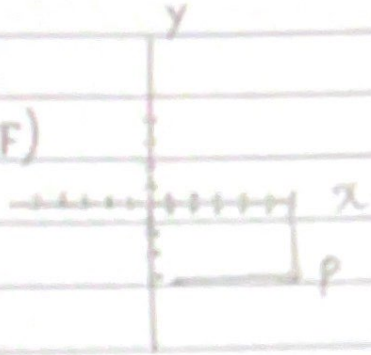


I quadrant

(E)



(F)



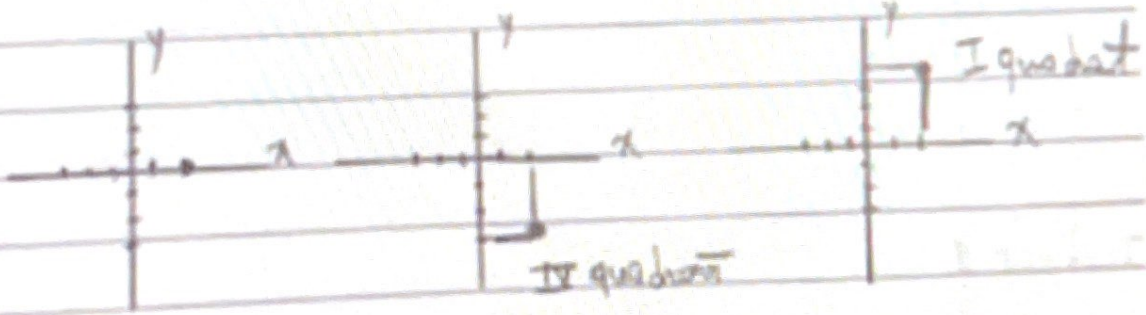
IV quadrant

(0, -3)

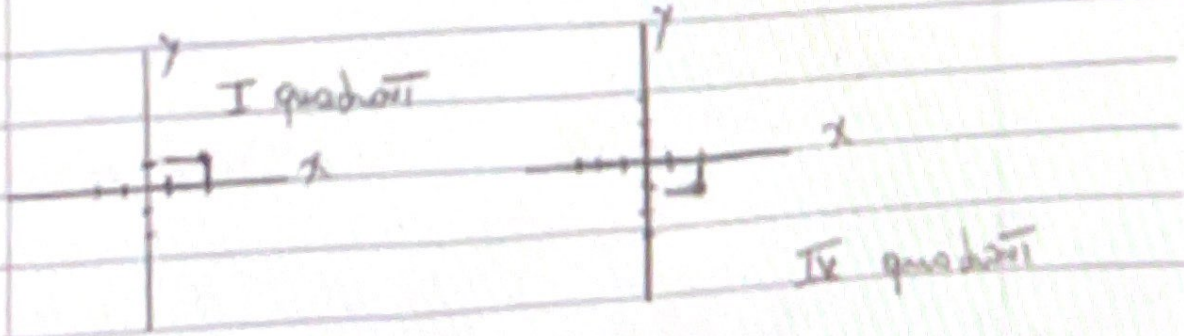
(6, -3)

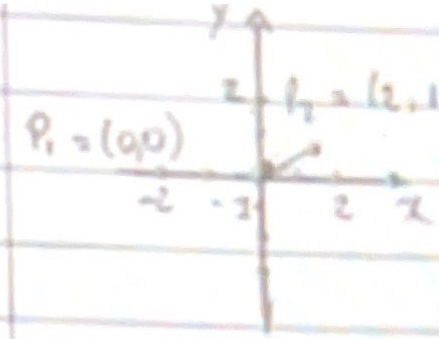
15 plot the points

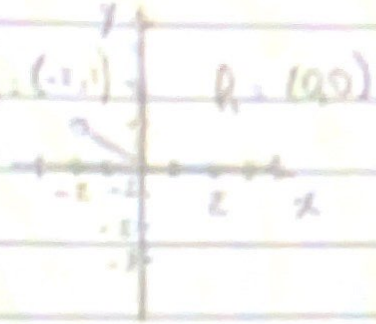
(2,0) (2, -3) (2,4)



(2,1) (2, -1)







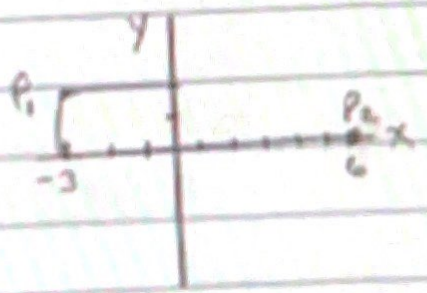
21. $P_1 = (3, -4)$; $P_2 = (5, 4)$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$
$$d = \sqrt{(5-3)^2 + (4-(-4))^2}$$
$$d = \sqrt{2^2 + (-8)^2} = \sqrt{4+64} = 68$$

23. $P_1 = (-3, 2)$; $P_2 = (6, 0)$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - x_1)^2}$$
$$d = \sqrt{(6-(-3))^2 + (0-2)^2}$$
$$d = \sqrt{9^2 + 2^2}$$
$$d = \sqrt{81+4} = 85$$

$P_1 = (-3, 2)$; $P_2 = (6, 0)$



27. $P_1 = (\overset{x_1}{4}, \overset{y_1}{-3})$; $P_2 = (\overset{x_2}{6}, \overset{y_2}{4})$

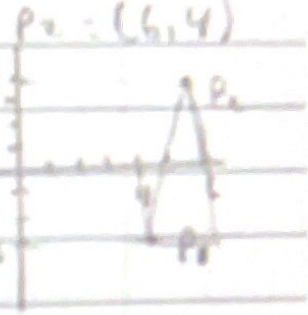
$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$d = \sqrt{(6 - 4)^2 + (4 - (-3)^2}$

$d = \sqrt{(2)^2 + (7)^2} = \sqrt{4 + 49} = 53$

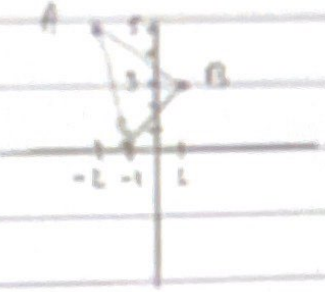
$P_1 = (4, -3)$

$P_2 = (6, 4)$

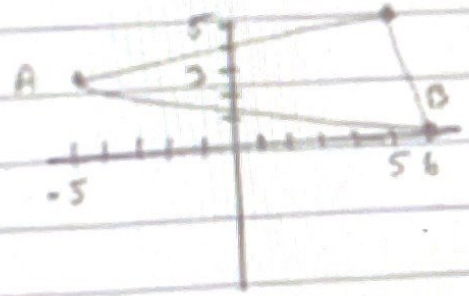


29. Plot each point and form the Triangle ABC.

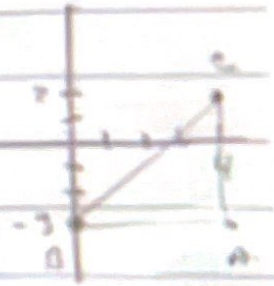
$A = (-2, 5)$, $B = (1, 3)$, $C = (-1, 0)$



31. $A = (-5, 3)$ $B = (6, 0)$ $C = (5, 5)$



33. $A = (4, -3)$ $B = (0, -3)$ $C = (4, 2)$



Find the Midpoint

35. $P_1 = (3, -4)$ $P_2 = (5, 4)$

$m = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = \frac{3+5}{2}, \frac{-4+4}{2} =$

$m = \frac{8}{2}, \frac{0}{2} = 4, 0$

37. $P_1 = (-3, 2)$ $P_2 = (6, 0)$

$m = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = \frac{-3+6}{2}, \frac{2+0}{2} = \frac{3}{2}, \frac{2}{2}$

39. $P_1 = (4, -3)$ $P_2 = (6, 1)$

$m = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = \frac{4+6}{2}, \frac{-3+1}{2}$

$m = \frac{10}{2}, \frac{-2}{2} = 5, -1$

48 If the point (2, 5) is shifted 3 units to the Right a 2 units down, what are its new coordinates