Question answer No. 1 :

$\therefore \underline{(x-h)^2 + (y-k)^2 = r^2}$

$\therefore (-2-5)^2 + (5-(-1))^2 = 85$

$\therefore r = \sqrt{85}$

$\therefore (-1, 5)$,$r = \sqrt{85}$

$\therefore (X-(-1))^2 + (y-5)^2 = \sqrt{85}$

Question answer No. 2 :

- $9x^2 + 9y^2 - 6x - 36y - 107 = 0$
- $X^2 + y^2 - \frac{2}{3}X - 4y - \frac{107}{9} = 0$
- $(x^2 - \frac{2}{3}X) - \frac{1}{9} + (y^2 - 4y) - \frac{107}{9} = 0$
- $(x^2 - \frac{2}{3}X + \frac{1}{9}) - \frac{1}{9} + (y^2 - 4y + 4) - 4 - \frac{107}{9} = 0$
- $(x - \frac{1}{3}) * (x - \frac{1}{3}) - \frac{1}{9} + (y-2) * (y-2) - 4 - \frac{107}{9} = 0$
- $(x - \frac{1}{3})^2 + (y-2)^2 = \frac{1}{9} + 4 + \frac{107}{9}$
- $(x - \frac{1}{3})^2 + (y-2)^2 = \frac{144}{9}$
- $(x - \frac{1}{3})^2 + (y-2)^2 = 16$

Center = $(\frac{1}{3}, 2)$

$r = \sqrt{16} = 4$

Question answer No. 3 :

x1=-2 y1=-3

x2=-3 y2=x

$d = \sqrt{(x2 - x1)^2 + (y2 - y1)^2}$

$5 = \sqrt{(-3 + 2)^2 + (x + 3)^2}$

$5 = \sqrt{(-1)^2 + (x + 3)^2}$

$5 = \sqrt{1 + x^2 + 6x + 9}$

$25 = x^2 + 6x + 10$

$X^2 + 6x - 15 = 0$

a = 1	b= 6	c= -15

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-6 \pm \sqrt{36 + 60}}{2}$$

$$x = \frac{-6 \pm \sqrt{96}}{2}$$

$$x = \frac{-6 \pm 4\sqrt{6}}{2}$$

$x = -3 + 2\sqrt{6}$ OR $x = -3 - 2\sqrt{6}$

Question answer No. 4 :

f(x) = 10 -2x **if x <2**

y= 10-2(-2) = 10+4 =14 x = -2

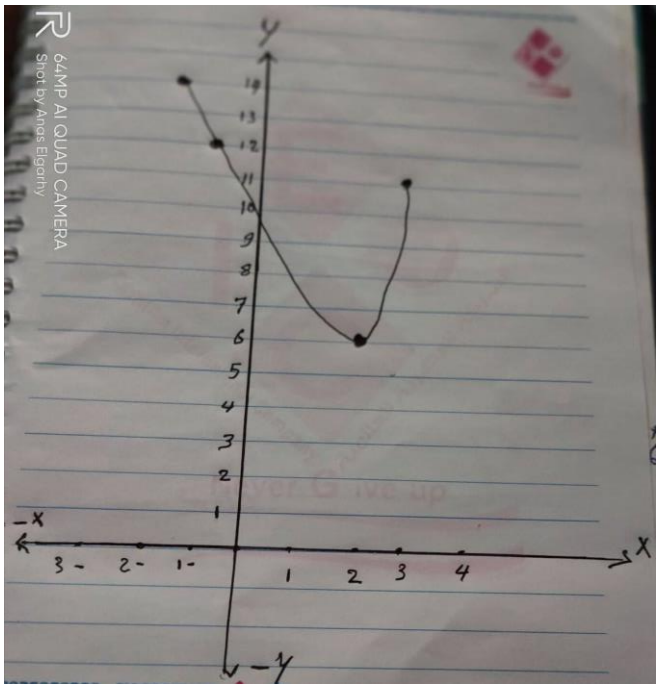
y= 10-2(-1) = 10+2 =12 x = -1

f(x) = x^2 + 2 **if x ≥ 2**

y= 4 + 2 = 6 **x = 2**

y= 9 + 2 = 11 **x = 3**

x	-2	-1	2	3
y	14	12	6	11



Question answer No. 5 :

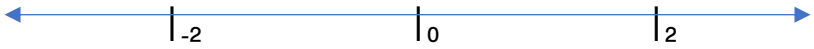
[A] $F(x) = \frac{9-2x}{x^2-4x+4}$

$x^2 - 4x + 4 = 0$

$(x + 2)\ \ (x - 2)$

$D = R / \{\pm 2\}$

$D = (-\infty , -2] \cup [2 , +\infty)$

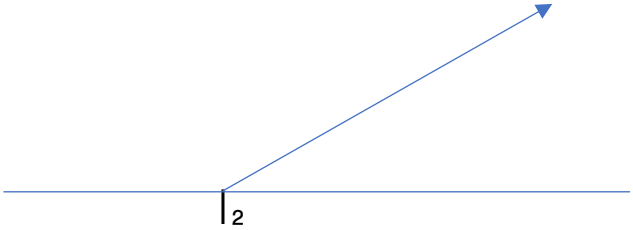


[B] $F(x) = \frac{1}{\sqrt{x}-2}$

$\because x - 2 > 0$

$\therefore X > 2$

$D = [2, +\infty)$



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