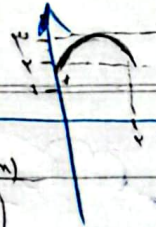
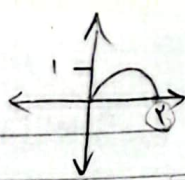


Subject: _____

Date: _____



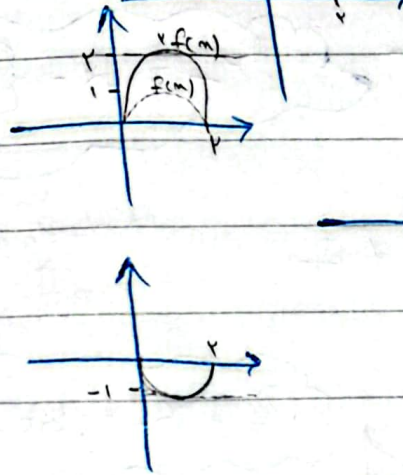
$$x = \frac{-b}{2a}$$

1- ا) $f(x) + y$

ب) $y f(x)$

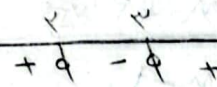
ج) $f(x-1)$

د) $-f(x)$



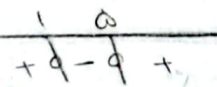
2- ا) $(x-2)(x-4) > 0$

$P_f = (-\infty, 2) \cup (4, +\infty)$



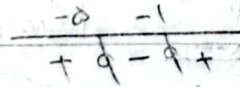
ب) $(x-1)(x-5) < 0$

$P_f = (1, 5)$



ج) $(x+1)(x+5) \geq 0$

$(-\infty, -5] \cup [-1, +\infty)$



د) $(x-1)(x-4) \leq 0$

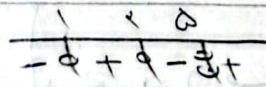
$P_f = [1, 4]$



هـ) $\frac{x^2 - 2x + 2}{x-5} < 0$

$P_f = (-\infty, 1) \cup (4, 5)$

و) $\frac{(x-1)(x-4)}{x-5} < 0$



ز) $\frac{x^2 - 1}{x^2 - 4x + 5} \geq 0$

$x^2 - 4x + 5$

ح) $\frac{(x-1)(x+1)}{(x-1)(x-5)} \geq 0$

$\frac{(x-1)(x-5)}{(x-1)(x-5)}$



$P_f = (-\infty, -1] \cup (5, +\infty)$

$$6- \text{a) } y = \sqrt{\frac{n^2-1}{n^2-n}}$$

$$\frac{n^2-1}{n^2-n} \geq 0$$

$$\frac{-1}{+} - \frac{0}{+} + \frac{1}{+}$$

$$D_f = \mathbb{R} - \{[-1, 0], \{1\}\}$$

$$7- \text{a) } y = \sqrt{\frac{n^2-14}{n^2-5n+6}}$$

$$\frac{(n-4)(n+4)}{(n-1)(n-6)} \geq 0$$

$$\frac{-4}{+} - \frac{1}{+} + \frac{4}{+}$$

$$D_f = \mathbb{R} - \{(-4, 1], \{6\}\}$$

$$D_f = (-\infty, -4] \cup (1, 6) \cup (6, +\infty)$$

$$8- \text{a) } y = \sqrt{4-\sqrt{2n}} \quad \begin{cases} n \leq 4 \\ 4-\sqrt{2n} \geq 0 \end{cases} \Rightarrow -1 \leq n \leq 4$$

$$D_f = [-1, 4]$$

$$9- \text{a) } y = \sqrt{4-\sqrt{n-2}} \quad \begin{cases} n \leq 4 \\ 4-\sqrt{n-2} \geq 0 \end{cases} \Rightarrow 2 \leq n \leq 4$$

$$D_f = [2, 4]$$

$$10- \text{a) } y = \sqrt{4-2n^2} \quad D_f = [-\sqrt{2}, \sqrt{2}]$$

$$4-2n^2 \geq 0 \Rightarrow 1(4-n^2) = 1(\sqrt{2}-n)(\sqrt{2}+n) \geq 0$$

$$\frac{-\sqrt{2}}{-} + \frac{\sqrt{2}}{-}$$

$$11- \text{a) } y = \sqrt{4|m|-9}$$

$$D_f = [4, +\infty) \cup (-\infty, -4]$$

$$4|m|-9 \geq 0$$

$$4|m| \geq 9 \Rightarrow |m| \geq \frac{9}{4} \Rightarrow m \geq \frac{9}{4} \text{ or } m \leq -\frac{9}{4}$$

$$12- \text{a) } y = \sqrt{\frac{|m|+1}{|m|-3}}$$

$$D_f = \mathbb{R} - \{\pm 3\}$$

$$\begin{aligned} |m|-3 &\neq 0 \\ |m| &\neq 3 \\ m &\neq \pm 3 \end{aligned}$$

$$13- \text{a) } y = \sqrt{\frac{\sqrt{m}+1}{\sqrt{m}-3}}$$

$$D_f = \mathbb{R} - \{9\}$$

$$\sqrt{m}-3 \neq 0$$

$$\begin{aligned} \sqrt{m} &\neq 3 \\ m &\neq 9 \end{aligned}$$

