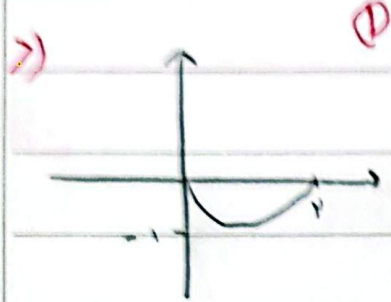
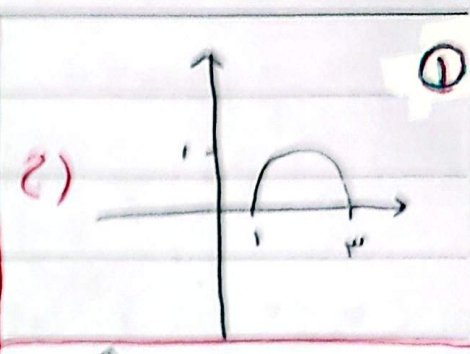
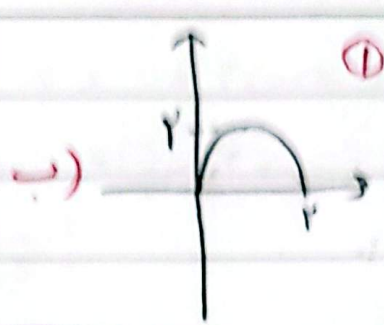
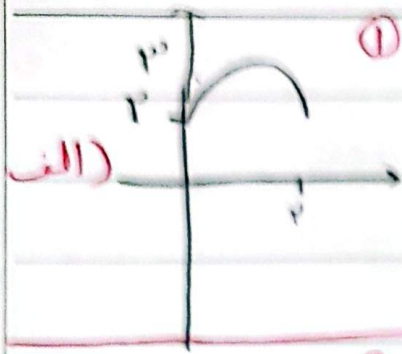




الف) ② $(n-1)(n-5) > 0$

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

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

ب) ② $(n-1)(n-5) < 0$

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

$$P_f = (1, 5)$$

ج) ③ $(n+1)(n+5) > 0$

$$\frac{-1}{+} \frac{-5}{-} \frac{1}{+}$$

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

د) ③ $(n-1)(n-4) < 0$

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

$$P_f = [1, 4]$$

هـ) ③ $(n-1)(n-2) < 0$

$$\frac{1}{+} \frac{2}{-} \frac{1}{+}$$

$$\frac{1}{+} \frac{2}{-} \frac{1}{+}$$

و) ③ $(n-1)(n+1) > 0$

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

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

ز) ③ $(n-1)(n-5) < 0$

$$\frac{-1}{+} \frac{1}{-} \frac{5}{+}$$

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

$$P_f = (-\infty, -1) \cup (0, +\infty) - \{1\}$$

ح) ④ الف) $\frac{(n-1)(n^2+n+1)}{n(n-1)(n+1)}$

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

ط) ④ ب) $\frac{(n-1)(n+1)}{(n-1)(n-1)}$

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

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

1) $x - a \geq 0 \rightarrow a \leq x$

(5)

$$\varepsilon - \sqrt{x-a} \geq 0 \rightarrow \sqrt{x-a} \leq \varepsilon \rightarrow x-a \leq \varepsilon^2 \rightarrow -\varepsilon^2 \leq a$$

$$-\varepsilon^2 \leq a \leq \varepsilon^2 \rightarrow [-\varepsilon^2, \varepsilon^2]$$

2) $a - x \geq 0 \rightarrow x \leq a$

(5)

$$x - \sqrt{a-x} \geq 0 \rightarrow \sqrt{a-x} \leq x \rightarrow a-x \leq x^2 \rightarrow x \leq 11 \quad x \leq a \leq 11$$

$$D_f = [11, 11]$$

3) $\varepsilon - x^2 \geq 0 \rightarrow x^2 \leq \varepsilon \rightarrow x \leq \sqrt{\varepsilon} \quad -\sqrt{\varepsilon} \leq x \leq \sqrt{\varepsilon}$

(4)

$$D_f = [-\sqrt{\varepsilon}, \sqrt{\varepsilon}]$$

4) $3|x| - 9 \geq 0 \rightarrow 9 \leq 3|x| \rightarrow 3 \leq |x| \rightarrow x \leq -3 \text{ or } x \geq 3$

(4)

$$D_f = [3, +\infty) \cup (-\infty, -3]$$

5) الف) $|x| - 3 \neq 0 \rightarrow |x| \neq 3$
 $x \neq \pm 3$

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

ب) $\sqrt{x} - 3 \neq 0 \rightarrow \sqrt{x} \neq 3$
 $x \neq 9$

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

ساینا محسنی

① الف) $\rho \cos \theta - 1 \neq 0 \rightarrow \rho \cos \theta \neq 1 \rightarrow \cos \theta \neq \frac{1}{\rho}$

$$D_f = \mathbb{R} - \left\{ \rho k\pi \pm \frac{\pi}{\rho} \right\}$$



① ب) $\rho \sin \theta + 1 \neq 0 \rightarrow \rho \sin \theta \neq -1 \rightarrow \sin \theta \neq -\frac{1}{\rho}$

$$D_f = \mathbb{R} - \left\{ \rho k\pi + \frac{\pi}{\rho}, \rho k\pi - \frac{\pi}{\rho} \right\}$$



① ج) $\cot \theta - 1 \neq 0 \rightarrow \cot \theta \neq 1$
 $\cos \theta \neq 0$

$$D_f = \mathbb{R} - \{ k\pi \}$$

$$D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4} \right\}$$



① د) $\varepsilon \sin^2 \theta - \rho \neq 0 \rightarrow \varepsilon \sin^2 \theta \neq \rho \rightarrow \sin^2 \theta \neq \frac{\rho}{\varepsilon} \rightarrow \sin \theta \neq \pm \sqrt{\frac{\rho}{\varepsilon}}$



$$D_f = \mathbb{R} - \left\{ \rho k\pi + \frac{\pi}{\rho}, \rho k\pi - \frac{\pi}{\rho} \right\}$$

9) $|\rho \sin \theta - \rho| - \frac{1}{\rho} > 0 \rightarrow |\rho \sin \theta - \rho| > \frac{1}{\rho} \rightarrow |\sin \theta - 1| > \frac{1}{\rho}$

$$\sin \theta - 1 > \frac{1}{\rho} \rightarrow \sin \theta > \frac{\rho+1}{\rho} \quad D_f = \left(\frac{\rho+1}{\rho}, \infty \right) \cup \left(-\infty, \frac{\rho-1}{\rho} \right)$$

$$\sin \theta - 1 < -\frac{1}{\rho} \rightarrow \sin \theta < \frac{\rho-1}{\rho}$$

10) الف) $\varepsilon - |\rho \sin \theta| \geq 0 \rightarrow |\rho \sin \theta| \leq \varepsilon$

ب) $|\rho \sin \theta| \neq 0$

$$\sin \theta \neq 0$$

$$|\rho \sin \theta| \leq \rho \rightarrow -\rho \leq \rho \sin \theta \leq \rho$$

$$D_f = [-\rho, \rho]$$

$$D_f = \mathbb{R} - \{0\}$$