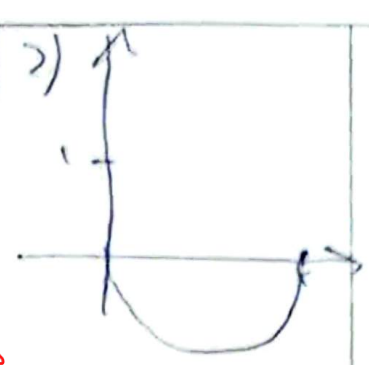
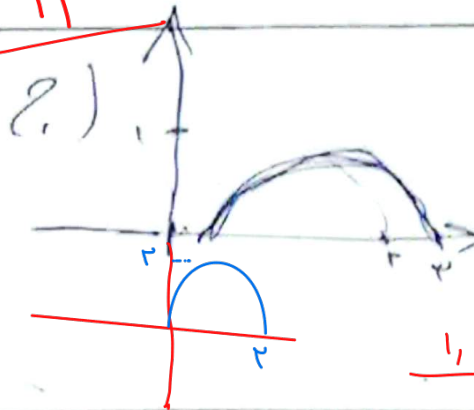
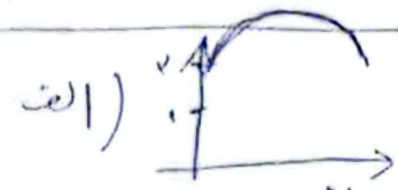




1) $x^2 - 5x + 6 < 0$ P_1 $x^2 + 4x + 10 > 0$ 2) $x^2 - \sqrt{x} + 7 < 0$
 $x^2 - 5x + 6 = 0$ $x^2 + 4x + 10 = 0$
 $(x-2)(x-3) = 0$ $(x+1)(x+10) = 0$
 $x = 2, 3$ $x = -1, -10$

+	+	-	$x-1$
+	-	-	$x-0$
+	-	+	$x-10$

+	+	-	$x-1$
+	-	-	$x-9$
+	-	+	$x-10$

[illegible]

$$\begin{aligned}
 & \sqrt{\frac{x^2-1}{x^2-x}} \\
 & x-1 \geq 0 \Rightarrow x \geq 1 \\
 & x-1 \geq 0 \\
 & x(x-1) \geq 0 \\
 & x(x-1)(x+1) \geq 0 \\
 & x = 0, 1, -1 \\
 & Df: (-\infty, -1) \cup (0, 1) \cup (1, \infty)
 \end{aligned}$$

$$\begin{aligned}
 & \text{ii) } y = \sqrt{4 - \sqrt{2 - x}} \\
 & 4 - x > 0 \quad x > 2 \quad x \leq 2 \\
 & 4 - \sqrt{4 - x} > 0 \quad x \geq \sqrt{4 - x} \\
 & (x) \geq 4 - x \quad x \geq 2 - 1 \quad x \geq -1 \\
 & -1 \leq x \leq 2 \quad D f \in [-1, 2]
 \end{aligned}$$

$$[D_p[x, y]] \rightarrow \sqrt{x-y} \leq p \quad x-y \leq 9 \quad x \leq 11$$

ا) $y = \sqrt{\varepsilon - x^2}$ $\varepsilon - x^2 \geq 0$ $x^2 \leq \varepsilon$ $x \leq \sqrt{\varepsilon}$ $D_f = [-\sqrt{\varepsilon}, \sqrt{\varepsilon}]$ (P) ✓	ب) $y = \sqrt{\varepsilon x - 1}$ $\varepsilon x - 1 \geq 0$ $x \geq \frac{1}{\varepsilon}$ $x \geq \frac{1}{\varepsilon}$ or $x \leq -\frac{1}{\varepsilon}$ $D_f = (-\infty, -\frac{1}{\varepsilon}] \cup [\frac{1}{\varepsilon}, +\infty)$	6
ا) $y = \sqrt{\frac{ x +1}{ x -3}}$ فرض من عدم صيرت نادر فقط $x \neq 3 \Rightarrow x \neq \pm 3$ $D_f = \mathbb{R} - \{\pm 3\}$	ب) $y = \sqrt{\frac{\sqrt{x+1}}{\sqrt{x-3}}}$ $\sqrt{x} \Rightarrow x \geq 0$ $\sqrt{x} \neq 3 \Rightarrow x \neq 9$ $D_f = [0, +\infty) - \{9\}$	7
ا) $y = \frac{\sin x}{x \cos x - 1}$ $x \cos(x) - 1 \neq 0$ $\cos(x) = \frac{1}{x}$ $x = \frac{\pi}{2} \text{ or } x = -\frac{\pi}{2} + 2k\pi$ $D_f = \{x \in \mathbb{R} \mid x \neq \pm \frac{\pi}{2} + 2k\pi, k \in \mathbb{Z}\}$	ب) $y = \frac{\cos x + 1}{x \sin x + 1}$ $x \sin x + 1 \neq 0$ $\sin x = -\frac{1}{x}$ $x = \frac{\pi}{2} + 2k\pi$ or $x = -\frac{\pi}{2} + 2k\pi$ $D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2}\}$	8
$y = \frac{1}{\sqrt{\varepsilon x - \frac{1}{\varepsilon}}}$ $\varepsilon x - \frac{1}{\varepsilon} \geq 0$ $x \geq \frac{1}{\varepsilon^2}$ $x \geq \frac{1}{\varepsilon^2}$ or $x \leq -\frac{1}{\varepsilon^2}$ $D_f = (-\infty, -\frac{1}{\varepsilon^2}] \cup [\frac{1}{\varepsilon^2}, +\infty)$	$\varepsilon x - \frac{1}{\varepsilon} \geq 0$ $x \geq \frac{1}{\varepsilon^2}$ $x \geq \frac{1}{\varepsilon^2}$ or $x \leq -\frac{1}{\varepsilon^2}$ $D_f = (-\infty, -\frac{1}{\varepsilon^2}] \cup [\frac{1}{\varepsilon^2}, +\infty)$ $\sin x \neq \pm \frac{\sqrt{\varepsilon}}{\varepsilon}$ $\mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$	9
ا) $y = \sqrt{\varepsilon - \varepsilon x }$ $\varepsilon - \varepsilon x \geq 0$ $\varepsilon \geq \varepsilon x$ $x \geq x$ $D_f = [-\varepsilon, \varepsilon]$ (P) ✓	ب) $y = \sqrt{\frac{\varepsilon}{ x }}$ $x \neq 0 \Rightarrow x \neq 0$ $\frac{\varepsilon}{ x } \geq 0$ $\frac{1}{ x } = 1 \Rightarrow D_f = \mathbb{R} - \{0\}$ $D_f = (-\infty, 0) \cup (0, +\infty)$	10

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

$$\begin{array}{c} -1 \quad *1 \quad 1 \\ \hline + \quad - \quad - \quad + \\ (-\infty, -1] \cup (1, +\infty) \end{array}$$

٤- ا) (ب)

$$\frac{(n-1)(n^2+n+1)}{(n-1)(n)(n+1)} \geq 0 \rightarrow$$

$$\begin{array}{c} -1 \quad 0 \quad *1 \\ \hline + \quad - \quad + \quad + \end{array}$$

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

(ب)

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

$$\begin{array}{c} -4 \quad 1 \quad *4 \\ \hline + \quad - \quad + \quad + \end{array}$$

$$(-\infty, -4] \cup (1, \infty) - \{4\}$$