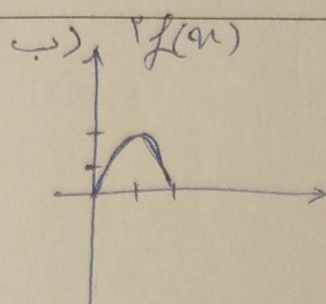
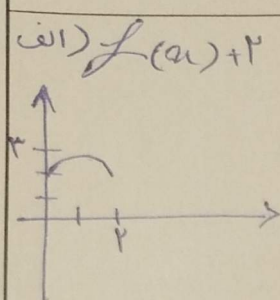


الف) $a^2 - a + 4 > 0$

	r	p
$(a-r)(a-p) > 0$	+	-
$a = r$ or $a = p$	+	+

$$D_{\mathcal{L}_5}(-\infty, r) \cup (r, +\infty)$$

$\hookrightarrow a^2 - 9a + \omega < 0$
 $(a-1)(a-\omega) < 0$
 $a = 1 \vee a = \omega$

2.) $an^2 + 4an + 4 \geq 0$
 $(n+1)(n+2) \geq 0$
 $n \leq -1$ u $n \geq -2$

$$D_f = [-\infty, -1] \cup [-1, +\infty)$$

$$\begin{aligned} & \Rightarrow a^4 - 4a + 9 \leq 0 \\ & (a-1)(a-4) \leq 0 \\ & a = 1 \quad \underline{a} \quad a = 4 \\ & D_f = [1, 4] \end{aligned}$$

الف) $\frac{a^2 - 2a + 1}{a - 1} < 0$

$(a - 1)(a - 1) < 0$

$a = 1 \Rightarrow a = 1$

$a - 1 \neq 0$

$a \neq 1$

$$D_f = (-\infty, 1) \cup (1, \infty)$$

$$\begin{aligned} & \cup) \frac{a^4 - 1}{a - (a+1)} \geq 0 \quad \begin{array}{c} + \quad - \quad + \quad - \quad + \end{array} \\ & \quad \quad \quad a - (a+1) \\ & (a-1)(a+1) \geq 0 \\ & \quad \quad \quad a = 1 \quad b \quad a = -1 \\ & (a-1)(a-1) \neq 0 \\ & \quad \quad \quad a = 1 \quad b \quad a = 1 \end{aligned}$$

$$Df_{\mathbb{S}(-\infty, -1] \cup (a, +\infty)}$$

$$\text{ii) } g = \sqrt{\frac{a^m - 1}{a^m - a}}$$

$$a^{\mu} - 1 \geq 0 \quad a^{\mu} - a_1 \geq 0$$

$$q_n^w \geq (q_n + 1) q_n^p (q_n - 1) > 0$$

$q \geq 1$ *

$\frac{1}{2} \quad 0 \quad 1$
 $\frac{1}{2} \quad 0 \quad 1$

$$Df = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

$$\frac{(a-\varepsilon)(a+\varepsilon)}{(a-1)(a-\varepsilon)} \geq \dots$$

$$D_{\mathcal{L}^2}(-\infty, -\varepsilon] \cup [1, \varepsilon) \cup (\varepsilon, +\infty)$$

(ii) $\frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \frac{d}{dt} \left(\frac{1}{2} m \frac{dx}{dt} \frac{dx}{dt} \right) = m \frac{dx}{dt} \frac{d^2x}{dt^2} = m v \frac{d^2x}{dt^2}$

$$\sqrt{r-a} \leq 1 \rightarrow r-a \leq 1$$

$$\rightarrow n \geq -13$$

$$\begin{aligned} & \text{---} \\ & x - n \geq 0 \\ & n \leq x \end{aligned}$$

$$D_{\mathcal{L}} = [-12, 4]$$

$$\sqrt{x-p} \rightarrow x-p \geq 0 \rightarrow x \geq p$$

$$1 - \sqrt{n - y} \geq 0 \Leftrightarrow$$

$$\sqrt{a-r} \neq \mu \quad a-r \leq 9$$

$$n \leq 11$$

$$D_L = [r, 1]$$

الف) $|E - Pa^2| \geq 0$

$|Pa^2| \leq E$

$|a| \leq \sqrt{E}$

$-\sqrt{E} \leq a \leq \sqrt{E}$

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

ب) $|a| - q \geq 0$

$|a| \geq q$

$|a| \geq q \rightarrow a \geq q, a \leq -q$

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

الف) $\sqrt{\frac{|a|+1}{|a|-1}} \rightarrow |a| \neq 1$
 $a \neq 1, -1$

~~$D_f = \mathbb{R}$~~

$D_f = \mathbb{R} - \{1, -1\}$

ب) $\sqrt{\frac{\sqrt{a}+1}{\sqrt{a}-1}} \rightarrow \sqrt{a} > 1$
 $a > 1$
 $a > 0$

$D_f = [0, 1) \cup (1, +\infty)$

الف) $|E \cos a| - 1 \neq 0$

$|E \cos a| \neq 1$

$\cos a \neq \frac{1}{E}$

$\arccos \frac{1}{E} = 2k\pi \pm \frac{\pi}{E}$

$D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{E} / k \in \mathbb{Z}\}$

ب) $|E \sin a| + 1 \neq 0$

$\sin a + \frac{1}{E} \neq 0$

$\sin a \neq -\frac{1}{E}$

$D_f = \mathbb{R} - \left\{ \begin{matrix} 2k\pi + \frac{\pi}{E} \\ 2k\pi + \frac{3\pi}{E} \end{matrix} / k \in \mathbb{Z} \right\}$

ج) $\tan a \neq 0$

$\cot a \neq 0$

$\cot a \neq 1$

$D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{E} / k \in \mathbb{Z} \right\}$

د) $|E \sin a| \neq 1$

$\sin a \neq \pm \frac{1}{E}$

$D_f = \mathbb{R} - \{k\pi + \frac{\pi}{E} / k \in \mathbb{Z}\}$

$\sqrt{|a-1|} - \frac{1}{E} \geq 0$

$|a-1| - \frac{1}{E} \geq 0$

$|a-1| \geq \frac{1}{E} \rightarrow a \geq \frac{1}{E} + 1$
 $a \leq \frac{1}{E} - 1$

$D_f = (-\infty, \frac{1}{E} + 1] \cup [\frac{1}{E} - 1, +\infty)$

الف) $|E - Pa| \geq 0$

$|Pa| \leq E$

$|a| \leq \frac{E}{P}$

$-\frac{E}{P} \leq a \leq \frac{E}{P}$

$D_f = [-\frac{E}{P}, \frac{E}{P}]$

ب) $\frac{|a|}{|a|} \geq 0, |a| \neq 0$

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