

نام و نام خانوادگی: ارمیا ابراهیمی با استفاده از شبرنگ کتف شماره ۳ کلاس دهم سبک

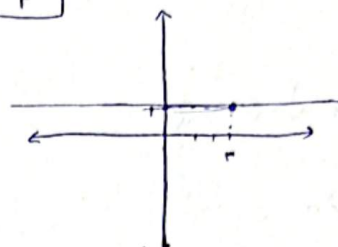
الف) $y^2 - x = 2x^2 \rightarrow y^2 = 2x^2 + x \rightarrow \begin{cases} y_1^2 = 2x_1^2 + x_1 \\ y_2^2 = 2x_2^2 + x_2 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 = y_2^2 \rightarrow y_1 = y_2$

ب) $|y| + x^2 = x + 3 \rightarrow |y| = -x^2 + x + 3 \xrightarrow{x=0} |y| = 3 \Rightarrow y = \pm 3$

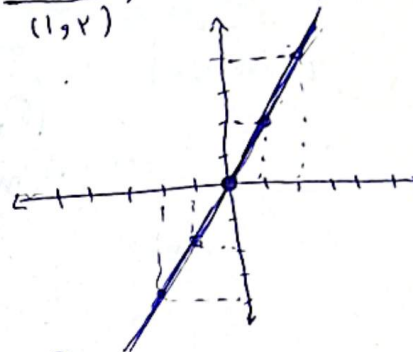
ج) $\sqrt{x-4} + \sqrt{y-2} = 0 \rightarrow \begin{cases} x=4 \\ y=2 \end{cases} \xrightarrow{\text{نقطه}} \begin{matrix} \uparrow \\ \text{نقطه} \end{matrix}$

د) $x = \cos y \xrightarrow{x=0} 0 = \cos y \Rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$

الف) $|r| \Rightarrow y=1$



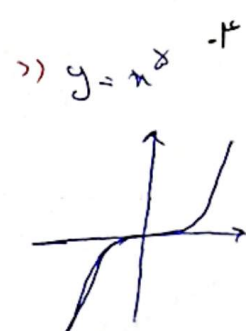
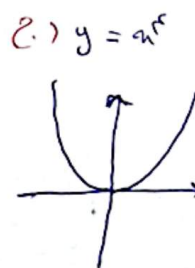
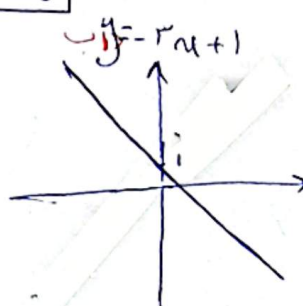
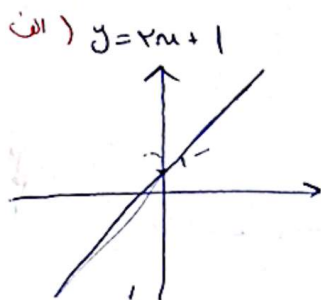
ب) $|r| \Rightarrow y = mx + b \xrightarrow{m=r} y = rx + b \xrightarrow{\text{نقطه } (1,2)} 2 = r(1) + b \rightarrow b = 2 - r \rightarrow b=0 \rightarrow y=2x$



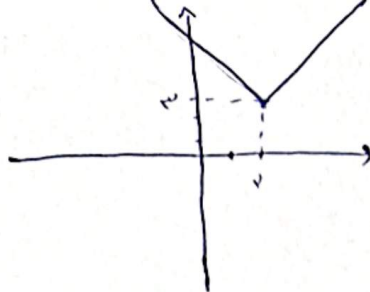
الف) $y = ax + b, a + b = 1 \rightarrow 1 + 2(0) = 1$
 $\xrightarrow{m=y} x = ax + b \xrightarrow{a \neq 1, b=0} x \neq 1x + 0 \rightarrow x = x$

ب) $y = ax + b, \min |r|, a + b = 1 \rightarrow -1^2 + 2(0) = -1$

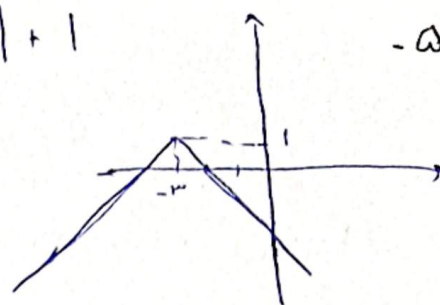
→ ext $\begin{cases} -\frac{b}{ra} \\ -\frac{\Delta}{\epsilon a} \end{cases} \rightarrow \frac{-b}{ra} = r \rightarrow -b = \epsilon a \xrightarrow{a=1} -b = \epsilon \rightarrow b = -\epsilon$
 $\frac{-\Delta}{\epsilon a} = 1 \rightarrow -\frac{b^2 - \epsilon a \epsilon}{ra} = 1 \xrightarrow{a=1, b=-\epsilon} -\frac{14 - \epsilon \epsilon}{\epsilon} = 1 \rightarrow -14 + \epsilon \epsilon = \epsilon \rightarrow \epsilon \epsilon = 15$
 $\Rightarrow C = 15$



الف) $y = |m+1| + 1$



ب) $y = |m+1| + 1$



الف) $y = \frac{m+1}{m^2-4m} \neq 0$

$\Rightarrow D_f = \mathbb{R} - \{0, 4\}$

$m(m-4) \neq 0 \rightarrow m \neq 0, 4$

ب) $y = \frac{m+1}{m^2-4m} \Rightarrow D_f = \mathbb{R}$

$m^2-4m+1=0 \rightarrow (m-2)^2-3=0 \rightarrow m=2 \pm \sqrt{3}$

چون دلتا منفی است، معرّج همیشه مثبت است

ج) $y = \frac{m+1}{m^2+m+1}$

$\Rightarrow D_f = \mathbb{R}$

$\Delta \rightarrow (1)^2-4(1)(1) = -3 < 0$ چون دلتا منفی است معرّج همیشه مثبت است

د) $y = \frac{m+1}{m^2-4m} \Rightarrow D_f = \mathbb{R} - \{0\}$

$m^2-4m=0 \rightarrow m(m-4)=0 \rightarrow m=0, 4$

الف) $y = \frac{\sqrt{4-m} + \sqrt{m-2}}{4-m}$

$\Rightarrow D_f = [2, 4]$

$4-m \geq 0 \rightarrow m \leq 4$

$m-2 \geq 0 \rightarrow m \geq 2$

$4 > m > 2$

ب) $y = \frac{m+1}{m^2+1} \Rightarrow D_f = \mathbb{R}$

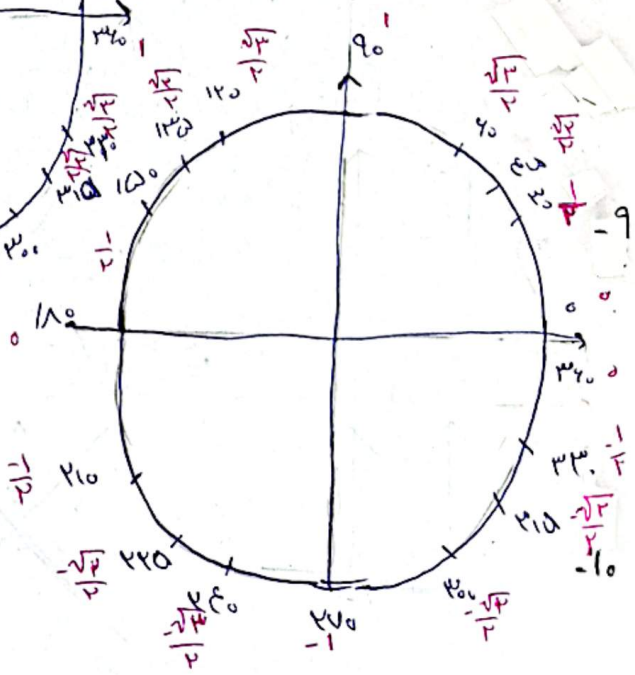
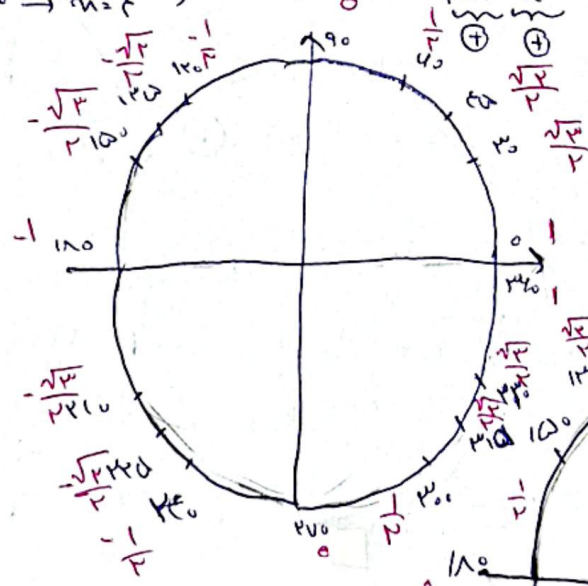
$m^2+1=0 \rightarrow m^2=-1 \rightarrow m \neq -1$

ج) $y = \frac{\sqrt{m-2}}{m-4} \rightarrow m-2 \geq 0 \rightarrow m \geq 2$
 $\rightarrow m-4=0 \rightarrow m=4$

$D_f = [2, +\infty) - \{4\}$

د) $y = \frac{m+1}{m^2+1} \Rightarrow D_f = \mathbb{R} - \{0\}$

$m^2+1=0 \rightarrow m^2=-1 \rightarrow m \neq 0$



الف) $y = \cos \frac{2\pi}{3}$

$\rightarrow \sin \frac{\pi}{4}, \frac{5\pi}{4}$

ب) $y = \cos \frac{11\pi}{6}$

$\rightarrow \sin \frac{6\pi}{11}, \frac{5\pi}{11}$