

سوال اول

← سوال 1

الف) $y^k - x = 2x^2$

اگر $x=0 \Rightarrow y^k = 0$
 $y \leq \sqrt[k]{k}$

$$\left\{ \begin{array}{l} y^k = 2x^2 + x \\ y^k = 2x_1^2 + x_1 \\ y^k_r = 2x_r^2 + x_r \end{array} \right\}$$

$\Rightarrow y^k_1 = y^k_2 \checkmark$

$y_1 = y_2$

ب) $|y| + x^2 = x + k$

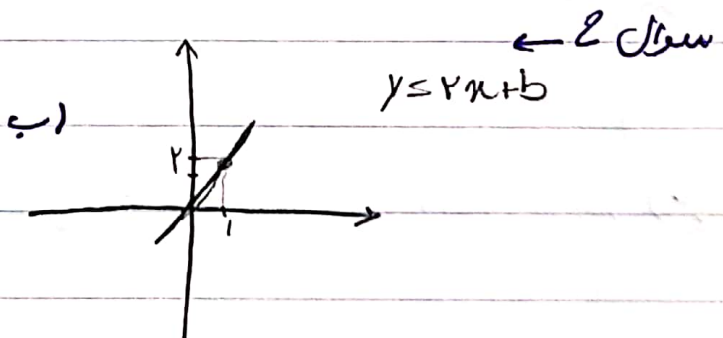
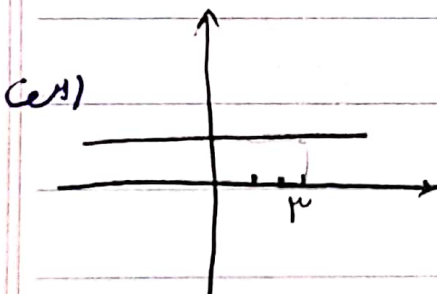
اگر $x=1 \Rightarrow |y| = k$
 $y < -k$

ج) $\sqrt{x-E} + |y-x| \leq 0$

اگر $x=f \Rightarrow |y-x| \leq 0$
 $y-x=0$
 $y=x$

د) $x = \cos y$

اگر $x=0 \Rightarrow \cos y = 0$ $y = \frac{\pi}{2}$
 $y = \frac{\pi}{2}$



← 3 سوال

ا) $y = ax + b$
 $y = x \Rightarrow a = 1, b = 0 \Rightarrow a + b = 1 + 0 = 1$

ب) $y = x^2 + ax + b$
 $\min |f| \Rightarrow \begin{cases} -\frac{b}{2a} = \frac{r}{1} \rightarrow -b = 2a \rightarrow 2a + b = 0 \\ -2a + b = -r \end{cases}$

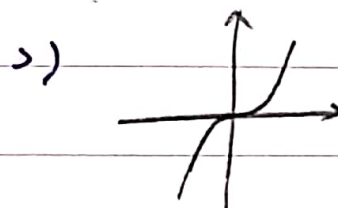
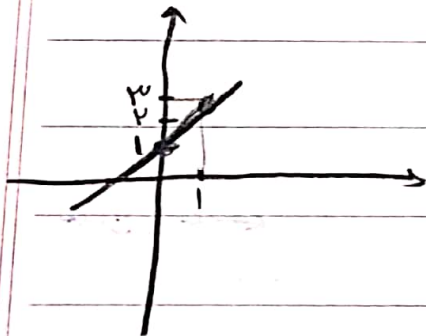
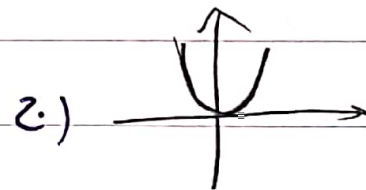
$\Rightarrow \begin{cases} 2a + b = 0 \\ -2a + b = -r \end{cases} \Rightarrow \begin{cases} 2a + b = 0 \\ 4a = r \end{cases} \Rightarrow \begin{cases} a = \frac{r}{4} \\ b = -\frac{r}{2} \end{cases}$

$\Rightarrow a + b = \frac{r}{4} + (-\frac{r}{2}) = \frac{r}{4} - \frac{2r}{4} = \frac{r - 2r}{4} = \frac{-r}{4} = -\frac{1}{4}$

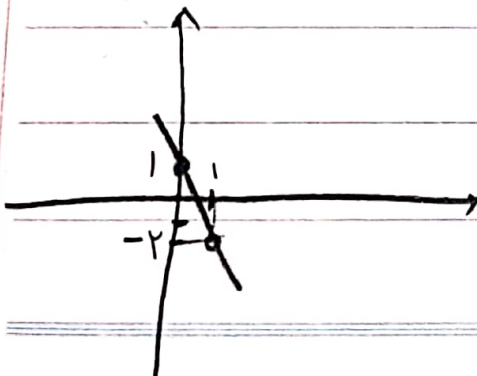
$y = x^2$

← 4 سوال

ا) $y = rx + 1 \rightarrow \begin{array}{c|cc} x & 0 & 1 \\ \hline y & 1 & r \end{array}$

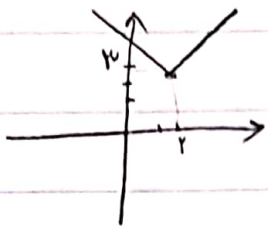


ب) $y = -rx + 1 \rightarrow \begin{array}{c|cc} x & 0 & 1 \\ \hline y & 1 & -r \end{array}$



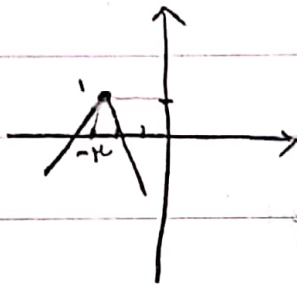
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Case 1) $y = |x-2| + 2 \rightarrow$



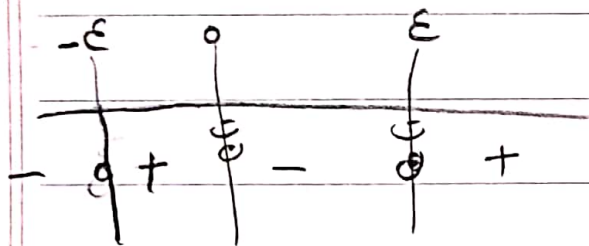
← 5 سوال

Case 2) $y = -|x+2| + 1$



← 6 سوال

Case 1) $\frac{x+E}{x^2-Ex} \rightarrow \frac{x+E=0}{x=-E} \left\{ \begin{array}{l} x^2-Ex = x(x-E)=0 \\ x=0, x-E=0 \\ \underline{x=E} \end{array} \right.$



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

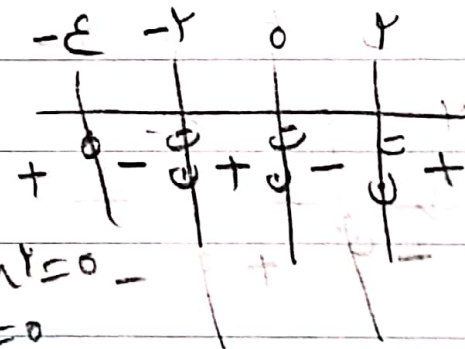
Case 2) $\frac{x+E}{x^2-Vx+19} = D_f = \mathbb{R}$

Disc Δ

Case 3) $\frac{x+E}{x^2+x+E} = D_f = \mathbb{R}$

Disc Δ

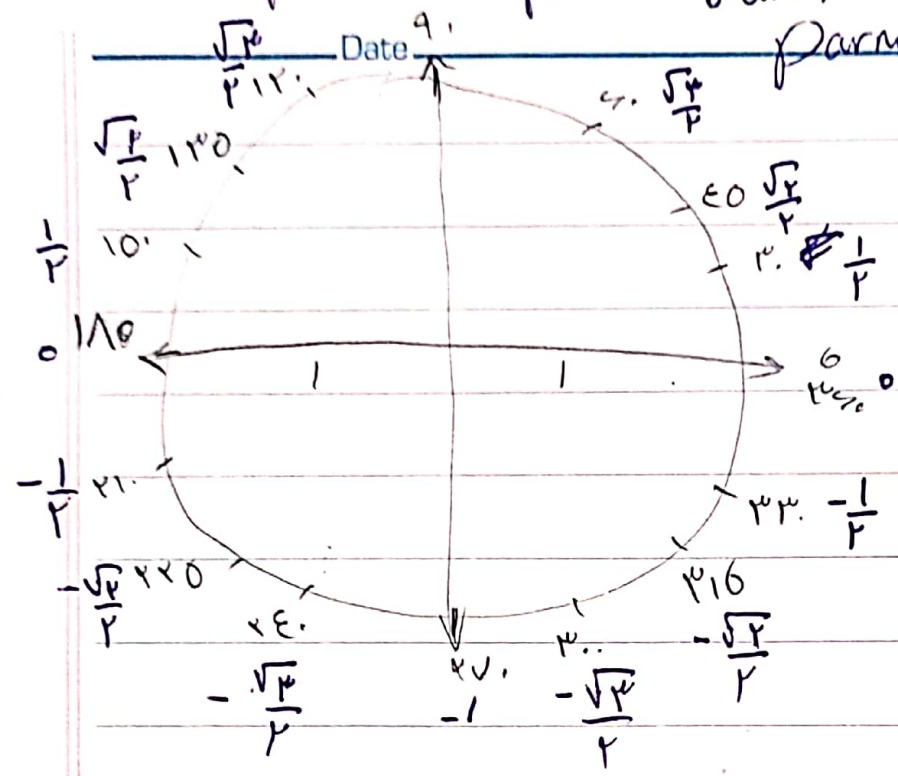
$\rightarrow D_f = \mathbb{R} - \{0, -2, 2\}$



Case 4) $\frac{x+E}{x^2-Ex^2} \rightarrow$

$\frac{x+E=0}{x=-E} \left\{ \begin{array}{l} x^2-Ex^2 = x^2(1-E)=0 \\ x^2=0, x^2-E=0 \\ \underline{x=\pm\sqrt{E}} \end{array} \right.$

$x^2=0, x^2-E=0$
 $x^2=E$
 $x=\pm\sqrt{E}$



← 9 سوال
 چيز ←

Parnika
 Parnika

(cos) $-\frac{\sqrt{3}}{2} = \frac{1}{2} \rightarrow \theta = \frac{\pi}{6}$
 $150^\circ \leq \omega \pi$

(sin) $-\cos \frac{11\pi}{6} = -\frac{\sqrt{3}}{2} \rightarrow \theta = \frac{\pi}{6}$
 $\theta_{00} = \frac{\omega \pi}{6}$

← 1 سوال

← Volume

$$\cos y = \sqrt{4-x} + \sqrt{x-2}$$

$$\begin{matrix} 4-x \geq 0 \\ x \geq 2 \end{matrix}$$

$$\begin{matrix} x-2 \geq 0 \\ x \geq 2 \end{matrix} \rightarrow D_f = [2, 4]$$

$$b) y = \frac{4x+1}{x^2+1} \Rightarrow D_f = \mathbb{R}$$

$$c) \frac{\sqrt{x-2}}{x-5} \rightarrow \begin{matrix} x-2 \geq 0 \\ x \geq 2 \end{matrix} \quad \begin{matrix} x-5 \neq 0 \\ (x \neq 5) \end{matrix}$$

$$D_f = \mathbb{R} - \{(-\infty, 2), 5\}$$

$$d) y = \frac{2x+3}{|x|+x^2} \rightarrow D_f = \mathbb{R}$$

$$\frac{|x|+x^2}{x^2+x^2}$$

