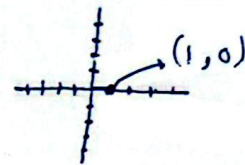
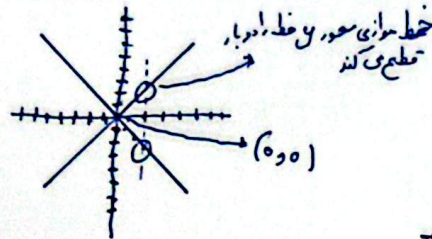


$$f = \{(1, 4a), (1, a^2 + 3), (2, 3a)\} \xrightarrow{\text{میان}} 4a = a^2 + 3 \Rightarrow a^2 - 4a + 3 = 0 \Rightarrow (a-3)(a-1) = 0$$

$$\Rightarrow a = \begin{cases} 3 \\ 1 \end{cases}$$

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تابع نیست $\Rightarrow |a| = 1 \Rightarrow$ الف)



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$$|y| + \sqrt{x-1} = 0 \Rightarrow \sqrt{x-1} = 0 \Rightarrow x = 1$$

$$|y-1| = \sqrt{x-2} \xrightarrow{x=3} |y-1| = 1 \Rightarrow y = \begin{cases} 2 \\ 0 \end{cases}$$

$$b) y^5 - y = \frac{x^2}{y} \Rightarrow x = 0 \Rightarrow y^5 - y = 0 \Rightarrow y(y^4 - 1) = 0 \Rightarrow y(y^2 + 1)(y-1)(y+1) = 0 \Rightarrow y = \begin{cases} 0 \\ 1 \\ -1 \end{cases}$$

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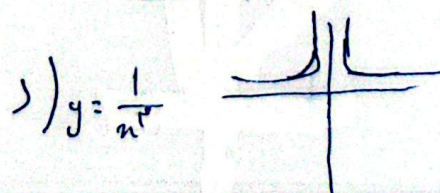
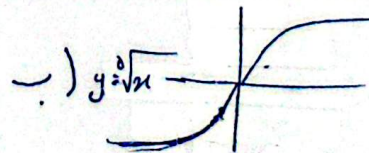
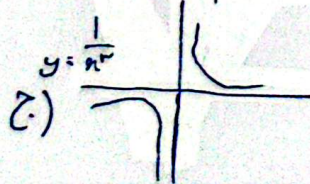
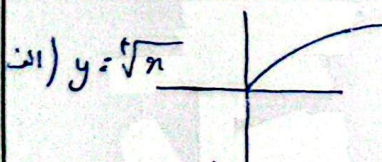
$$c) \sin^2 x + \cos^2 \frac{y}{2} = 1 \xrightarrow{x=0} \sin^2 0 = 0 \Rightarrow \cos^2 \frac{y}{2} = 1 \Rightarrow \frac{y}{2} = 2\pi, 0, \dots$$

$$d) 2\pi y = x \xrightarrow{x=0} 0 \times 2\pi y = 0 \Rightarrow y = \mathbb{R}$$

$$f) |x| + |y-1| = 4 \xrightarrow{x=1} 1 + |y-1| = 4 \Rightarrow |y-1| = 3 \Rightarrow y = \begin{cases} -2 \\ 4 \end{cases} \quad X$$

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$$b) y^5 + 3x = 0 \Rightarrow \begin{cases} y_1^5 + 3x_1 = 0 \\ y_2^5 + 3x_2 = 0 \end{cases} \xrightarrow{x=0} y_1^5 = y_2^5 \Rightarrow y_1 = y_2 \quad \checkmark$$



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الف) ج)	ج)	٧
		٨
الف) $\cos 120^\circ = -\frac{1}{2}$ ج) $\cos \frac{4\pi}{3} = -\frac{1}{2}$	ب) $\sin 150^\circ = \frac{1}{2}$ د) $\sin \frac{11\pi}{6} = -\frac{1}{2}$	٩
		١٠