

$$f = \{(1, 4a), (1, a^2+3), (2, 3a)\}$$

$$4a = a^2 + 3$$

$$a \in \{1, 3\}$$

$$a^2 - 4a + 3 = 0$$

$$0 = (a-3)(a-1) \begin{cases} a=3 \\ a=1 \end{cases}$$

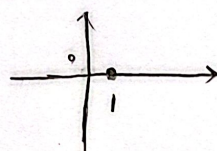
$$\text{الف) } |y| = |x|$$

$$x = \pm y \rightarrow \text{فقط } (0,0) \text{ (می آید ولی تابع نیست)}$$

$$x = \pm y \text{ تابع نیست}$$

$$\text{ب) } \underbrace{|y|}_{+} + \underbrace{\sqrt{x-1}}_{+} = 0$$

$$\text{فقط } (1,0)$$



$$\text{تابع است}$$

$$\text{الف) } |y-1| = \sqrt{x-2} \xrightarrow{x=3} |y-1| = 1 \rightarrow y = 0, 2 \text{ (تابع نیست)}$$

$$\text{ب) } y^5 - y = \frac{x^2}{2} \xrightarrow{x=0} y^5 - y = 0 \rightarrow y(y^4 - 1) = 0 = y(y-1)(y+1)(y^2+1) = 0$$

$$\text{سسته (ارزی یک یک) } y \text{ متناوب (ارزی تابع نیست)}$$

$$\text{ج) } \sin^2 x + \cos^2 \frac{y}{2} = 1 \rightarrow \cos^2 x = 1 - \sin^2 x \xrightarrow{x=0} \cos^2 \frac{y}{2} = 1 \quad \left(\cos \frac{y}{2} = \pm 1 \text{ تابع نیست} \right)$$

$$\text{د) } 2xy = x = x(2y-1) = 0 \xrightarrow{x=0} \text{ (ارزی یک مقدار بی نهایت } y \text{ می آید)}$$

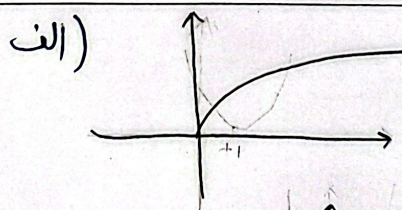
$$\text{الف) } x^2 + |y-1| = 4x \rightarrow 4x - x^2 = |y-1| \xrightarrow{x=1} 4-1 = |y-1|$$

$$\text{تابع نیست}$$

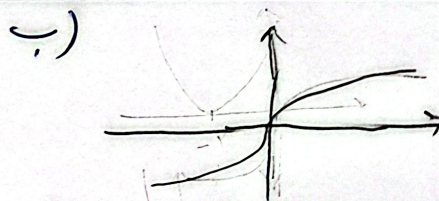
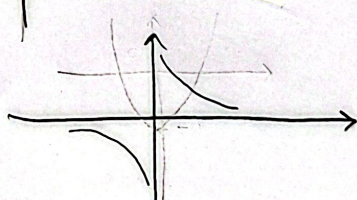
$$\text{ب) } y^5 + 3x = 0$$

$$y^5 = -3x \rightarrow y = \sqrt[5]{-3x}$$

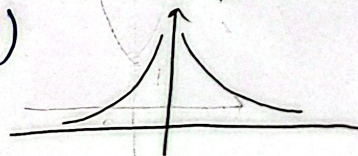
$$\text{تابع است}$$



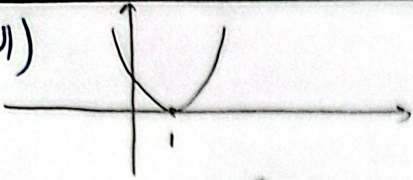
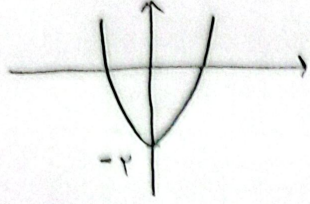
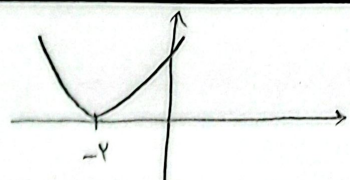
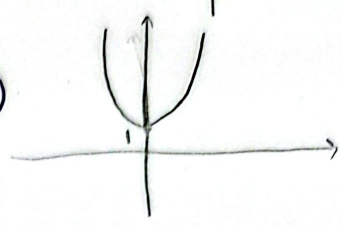
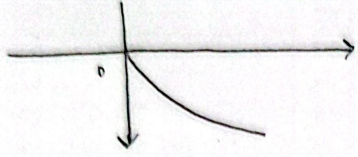
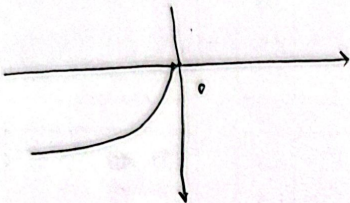
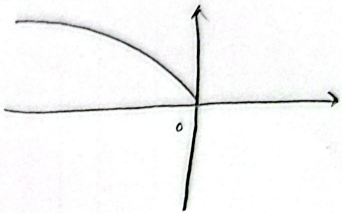
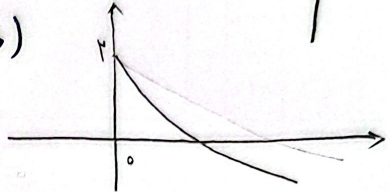
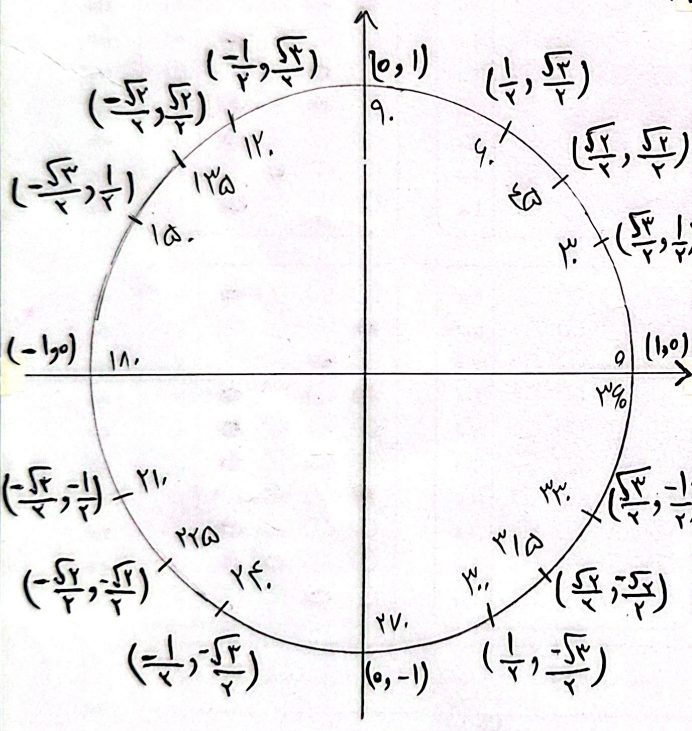
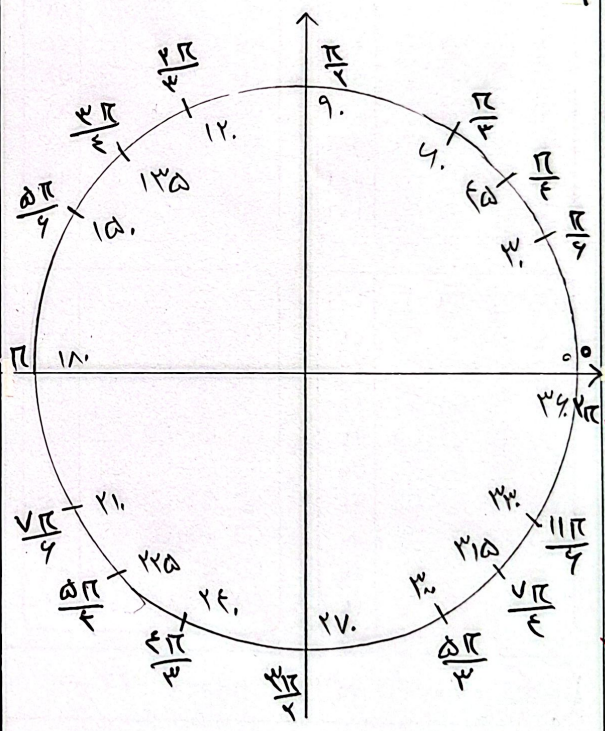
ج)



د)



۵

الف)  ج) 	ب)  د) 	الف)  ج) 	ب)  د) 	۸  ۹ 	الف) $\cos 12^\circ = \frac{1}{4}$ ج) $\cos \frac{5\pi}{4} = \frac{1}{4}$ ب) $\sin 15^\circ = \frac{1}{4}$ د) $\sin \frac{11\pi}{4} = -\frac{1}{4}$
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برای رسم شکل سوال ۸ و ۹ به دایره کعبه رفرنس: مصور به تغییر از رسم