

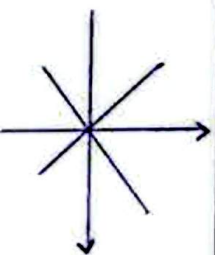
$$f = f((1, 4a), (1, a^2), (2, 3a)) \xrightarrow{\text{تابع}} f = f((1, 12), (2, 9))$$

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

$$a = 3$$

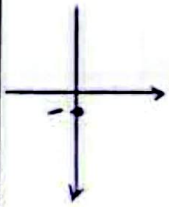
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$$\text{الف} \quad x = -y \rightarrow |y| = |x|$$



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$$\text{ب} \quad y = 0 \rightarrow y = 0 \rightarrow x = 1 \rightarrow \sqrt{x-1} = 0$$



$$\text{الف} \quad x = 3 \rightarrow y = 1 \rightarrow \sqrt{y-1} = 1 \rightarrow y = 2 \rightarrow x = 0 \rightarrow \text{تابع نیست}$$

$$\text{ب} \quad x = 0 \rightarrow y = (y^2 - 1) = 0 \rightarrow y = 1 \text{ or } y = -1 \rightarrow \text{در بالای یک } x \text{ مقدار } y$$

$$\text{ج} \quad x = \frac{\pi}{4} \rightarrow 1 + \frac{\cos y}{2} = 1 \rightarrow \cos y = 0 \rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}, \dots$$

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$$\text{د} \quad x = 0 \rightarrow y = 0 \rightarrow \text{وی مختصات از وی نیست است}$$

$$\text{الف} \quad \begin{cases} x_1^2 + x_2 = 0 \\ y_1^2 + x_2 = 0 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 - y_2^2 = 0$$

تابع

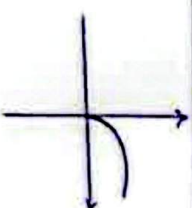
$$\text{ب} \quad \begin{cases} x_1^2 + |y_1 - 1| = 4x_1 \\ x_2^2 + |y_2 - 1| = 4x_2 \end{cases} \rightarrow \text{اولی وی بر روی خط}$$

تابع

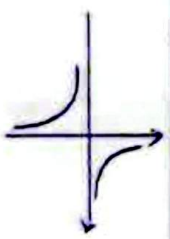
$$x_1 = x_2 \Rightarrow y_1 = y_2$$

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الف

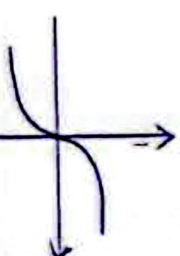


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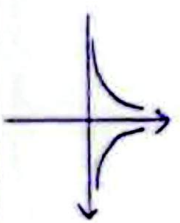


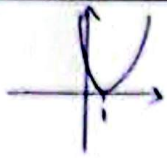
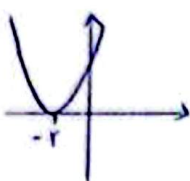
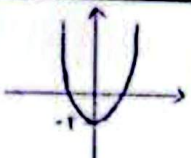
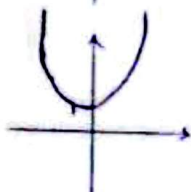
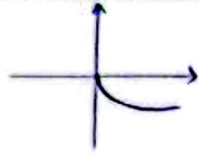
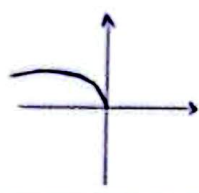
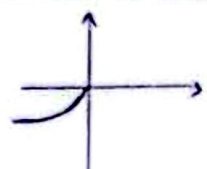
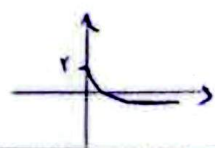
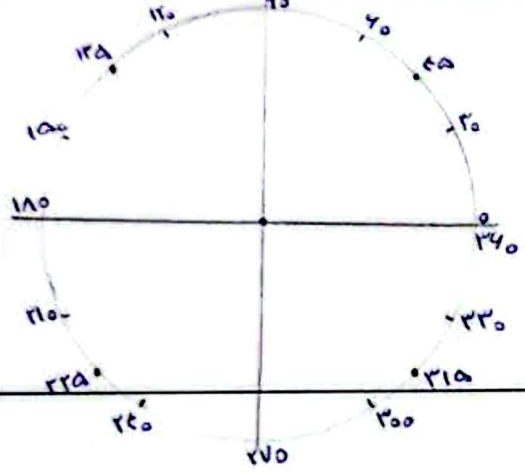
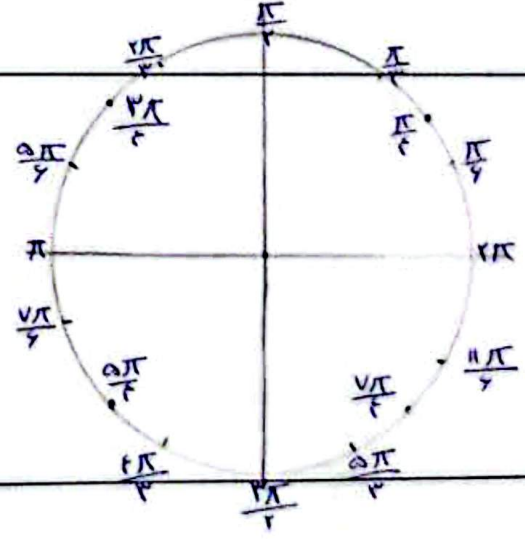
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ب



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