

نام و نام خانوادگی: امیرحسین دهقان / پاسخنامه تشریحی تکلیف شماره ۲ / کلاس: دهم / درس: ریاضی

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

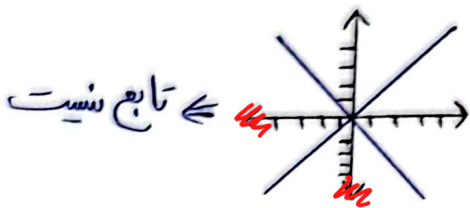
$$2a = a^2 + 3 \Rightarrow a^2 - 2a + 3 = 0$$

$$(a-1)(a-3) = 0 \Rightarrow$$

$$a = 1 \text{ یا } 3$$

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

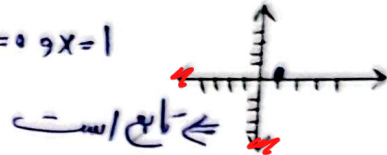
$$\text{الف) } |y| = |x|$$



$$\text{ب) } |y| + \sqrt{x-1} = 0$$

$$|y| = -\sqrt{x-1} \Rightarrow \text{مشتق مشترک صفر و مثبت} \Rightarrow$$

$$|y| = 0 \Rightarrow y = 0, x = 1$$



$$\text{الف) } |y-1| = \sqrt{x-2} \xrightarrow{x=3} |y-1| = 1 \Rightarrow y-1 = \pm 1 \Rightarrow y = 2 \text{ یا } y = 0$$

$$\text{ب) } y^{\infty} - y = -\frac{x^2}{y} \xrightarrow{x=0} y^{\infty} = y \Rightarrow y = \begin{cases} 1 \\ 0 \end{cases}$$

$$\text{ج) } \sin^2 x + \cos^2 \frac{y}{y} = 1 \xrightarrow{\sin x = 0} \cos^2 \frac{y}{y} = 1 \Rightarrow \frac{y}{y} = \begin{cases} 0 \Rightarrow y = 0 \\ 1 \Rightarrow y = 360^\circ \end{cases} \Rightarrow y = \{0, 360^\circ\}$$

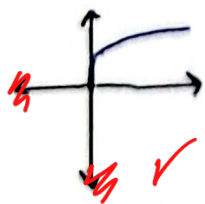
$$\text{د) } 2xy = x \xrightarrow{x=y} 2y^2 = y \Rightarrow y = \begin{cases} 1 \\ 0 \end{cases}$$

$$\text{الف) } x^2 + |y-1| = 4x \quad \text{if } x=3 \Rightarrow 9 + |y-1| = 12 \Rightarrow$$

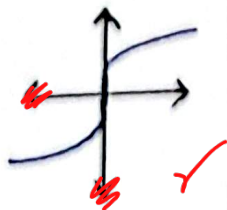
$$|y-1| = 3 \Rightarrow y = 4 \text{ و } -2 \Rightarrow \text{تابع نیست}$$

$$\text{ب) } y^{\infty} + 3x = 0 \Rightarrow \begin{cases} y_1^{\infty} = -3x_1 \\ y_2^{\infty} = -3x_2 \end{cases} \xrightarrow{x_1=x_2} \begin{cases} y_1^{\infty} = y_2^{\infty} \\ y_1 = y_2 \end{cases} \Rightarrow \text{تابع است}$$

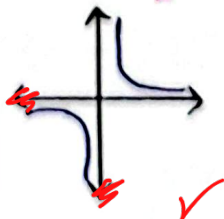
$$\text{الف) } y = \sqrt{x}$$



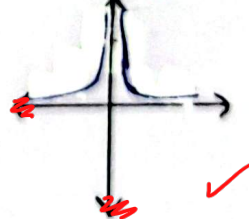
$$\text{ب) } y = \sqrt[3]{x}$$



$$\text{ج) } y = \frac{1}{x^3}$$



$$\text{د) } y = \frac{1}{x^2}$$



الف) $y = (x-1)^2$ ج) $y = x^2 - 4$	ب) $y = (x+2)^2$ د) $y = x^2 + 1$	٢ ٦
الف) $y = -\sqrt{x}$ ج) $y = -\sqrt{-x}$	ب) $y = \sqrt{-x}$ د) $y = \sqrt{x} + 2$	٢ ٧
		١,٧٥ ٨
		١,٥ ٩
الف) $\cos 120^\circ = -\frac{1}{2}$ ج) $\cos \frac{2\pi}{3} = -\frac{1}{2}$	ب) $\sin 180^\circ = \frac{1}{2}$ د) $\sin \frac{11\pi}{9} = -\frac{1}{2}$	٢ ١٠