

حاج آتشید ۴/۵ تا ۶/۶

پاسخنامه تشریحی تکلیف شماره کلاس

دانش حبیبی

نام و نام خانوادگی

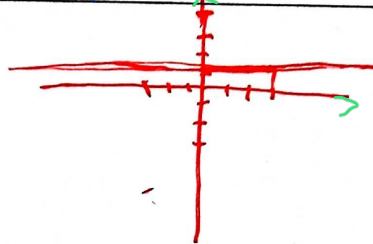
(الف) $y^3 - 1 = 2$ $y^3 = 3$ ✓ $y^3 - 2 = 1$ $y^3 = 1$ ✓ $y^3 - 3 = 1$ $y^3 = 4$ ✓ $y^3 = 2$ ✓

(ب) $|y| + 1 = 4$ $|y| = 3$ $y = \pm 3$ تابع نیست تابع هست

(ج) $\sqrt{1-4} + |y-2| = 0$ $2 + |y-2| = 0$ $|y-2| = -2$ $-y-2 = -2$ $y-2 = -2$ $y = 0$ $y = 0$ تابع هست

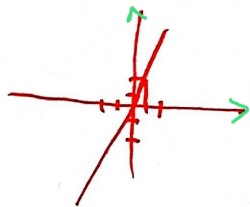
(د) $y = 0, 2\pi$ تابع نیست

مثال نقیض می‌بویده؟



(الف) $y = 1$

منابع ۲

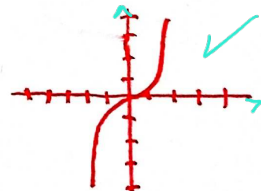
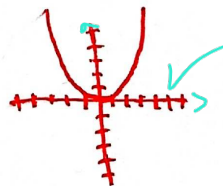
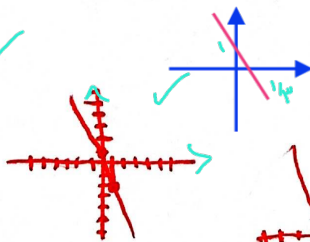
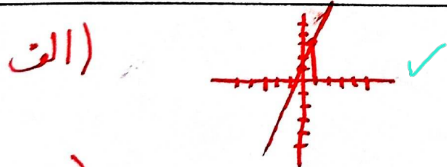
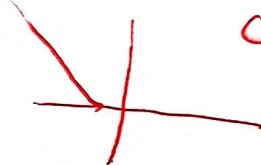


(ب) $y = 2x$

$a+2b = 1$ $y = ax + b$ $y = x \rightarrow b = 0$ $a = 1$

(الف) ✓

$a = 2$ $y = 2x + b$ $x = 1, y = 4$ $2(1) + b = 4$ $2 = 4 + b$ $b = 0$ $y = 2x$



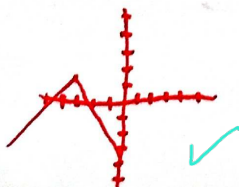
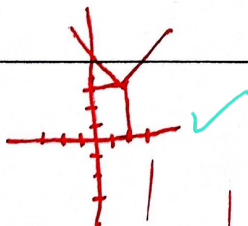
(الف)

(ب)

(ج)

(د)

(الف)



(ب)

$$x^2 - 4x \neq 0 \rightarrow x(x-4) \neq 0$$

$$D = \mathbb{R} - \{0, 4\}$$

$$x^2 - 4x + 1 \neq 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{4 \pm \sqrt{16-4}}{2} = \frac{4 \pm \sqrt{12}}{2} = 2 \pm \sqrt{3}$$

$$D = \mathbb{R}$$

$$x^2 + x + 1 \neq 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{-1 \pm \sqrt{1-4}}{2} = \frac{-1 \pm \sqrt{-3}}{2}$$

$$D = \mathbb{R}$$

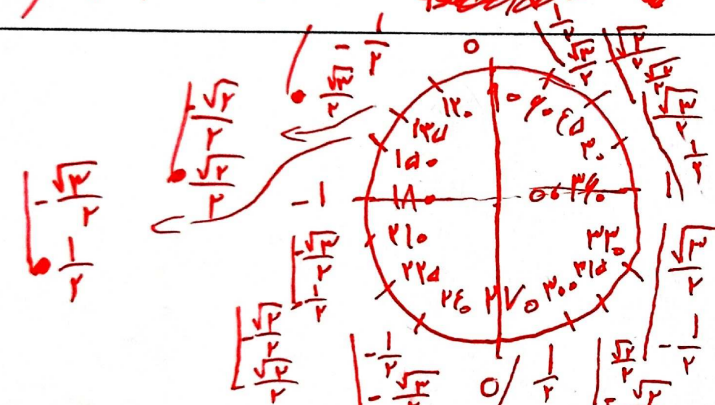
$$x^2 - 4x \neq 0 \rightarrow x(x-4) \neq 0 \rightarrow x \neq 0, x \neq 4 \rightarrow D = \mathbb{R} - \{0, 4\}$$

$$x - 2 > 0 \quad x - 2 \geq 0 \quad x > 2 \quad x \geq 2 \quad x > 2 \quad x \geq 2$$

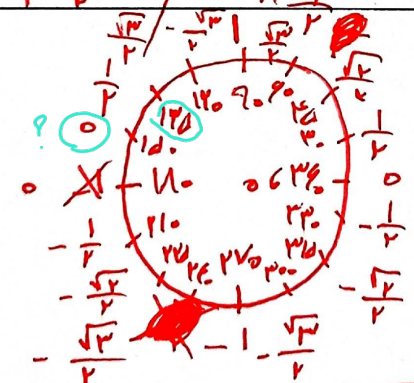
$$x^2 + 1 \neq 0 \quad x^2 \neq -1 \quad D = \mathbb{R}$$

$$\frac{x-2}{x-4} \geq 0 \quad x > 2 \quad x \neq 4 \quad [2, 4) \cup (4, +\infty)$$

$$|x| + x^2 \neq 0 \quad D = \mathbb{R} - \{0\}$$



$$\sin 135^\circ = \frac{\sqrt{2}}{2}$$

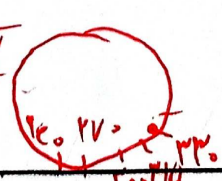
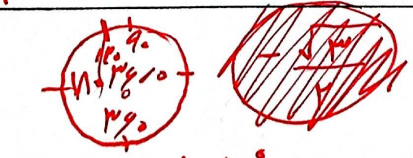


$$\frac{\pi}{3} = 120^\circ = -\frac{1}{4}$$

$$-(-\frac{1}{4}) = \frac{1}{4} \rightarrow 30^\circ \text{ or } 150^\circ \quad \frac{\pi}{6} \text{ or } \frac{5\pi}{6}$$

$$\frac{11\pi}{6} = 330^\circ = \frac{\sqrt{3}}{2}$$

$$\sin 0 = -\frac{\sqrt{3}}{2}$$



$$\frac{\pi}{3} \text{ or } \frac{2\pi}{3}$$

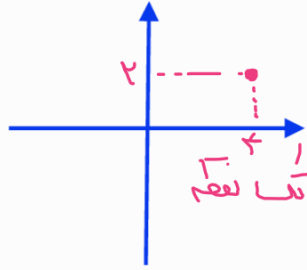
سوال ۱

برای اثبات تابع بودن می‌توانیم همان نقطه بزنیم!

الف) $y^3 - x = 2x^2$

تقریب ریاضی $\rightarrow \begin{cases} y_1^3 = 2x_1^2 + x_1 \\ y_2^3 = 2x_2^2 + x_2 \end{cases} \xrightarrow{x_1=x_2} y_1^3 = y_2^3 \Rightarrow y_1 = y_2$ تابع است!

ج) $\sqrt{x-4} + |y-2| = 0$
 $\underbrace{\quad}_0 \quad \underbrace{\quad}_0$
 $x=4 \quad y=2$



همه دو عدد ناخنکی برابر صفر بوده :

تابع است!

ب) $x = \cos y$

$x=0 \rightarrow \cos y = 0 \quad y = \frac{\pi}{2}, \frac{3\pi}{2}$ تابع نیست!

سوال ۳

ب) $y = x^2 + ax + b$ Min $\begin{vmatrix} 2 \\ 1 \end{vmatrix}$

$x_5 = \frac{-b}{1a} \rightarrow \frac{-a}{1} = 2 \Rightarrow a = -2$

$y_5 = 1 \rightarrow 1 = (2)^2 - 2(2) + b \Rightarrow b = 5$

$\begin{cases} a + 2b = -2 + 2(5) = 8 \end{cases}$

