

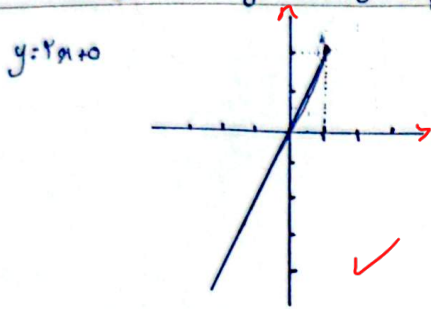
نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۳ کلاس دهم B

✓ $y^3 = x = 2x^2 \Rightarrow y^3 = 2x^2 + x \Rightarrow \begin{cases} y^3 = 2x^2 + x \\ y^3 = 2x^2 + x \end{cases} \xrightarrow{x=0, y=0} y^3 = y^3 \Rightarrow y = y \Rightarrow$ چون توان برابر عبارت می باشد
منفی را قرینه نمی باشد تابع هست

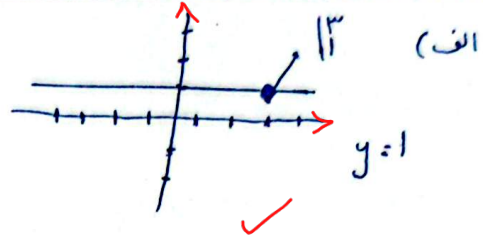
✓ $|y| + x^2 = x + 3 \xrightarrow{x=0} |y| = 3 \Rightarrow \begin{cases} y = 3 \\ y = -3 \end{cases} \Rightarrow$ تابع نیست

✓ $\sqrt{x-4} + |y-2| = 0 \Rightarrow \begin{cases} x=4 \\ y=2 \end{cases} \Rightarrow$ تابع هست
جمع دو عبارت ناشی از برابری با صفر است پس هر دو عدد صفر باشند

✓ $x = \cos y \Rightarrow \cos y = 0 \Rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}, \dots$ تابع نیست



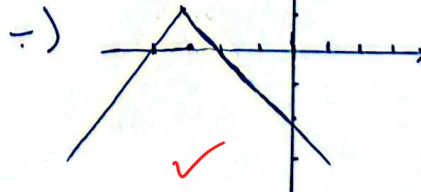
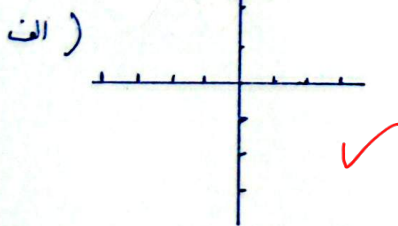
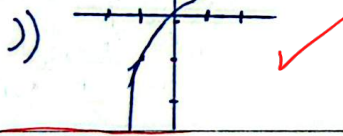
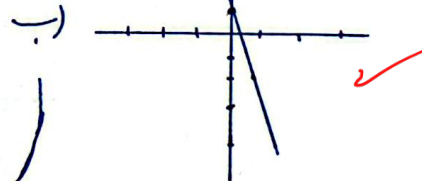
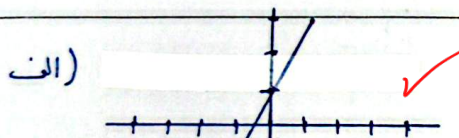
ب)



الف) تابع حتمی $y = n \Rightarrow a + 2b = 1 \Leftrightarrow a = 1, b = 0 \Rightarrow y = a + b$

$\min |y| \Rightarrow \begin{cases} y = \frac{-a}{2} \Rightarrow a = -4 \\ 1 = \frac{y - 4b}{-4} \Rightarrow \frac{16 - 4b}{-4} = 1 \Rightarrow 16 - 4b = -4 \Rightarrow 4b = 20 \Rightarrow b = 5 \end{cases}$

ب) $a + 2b = -4 + 1 = -3$

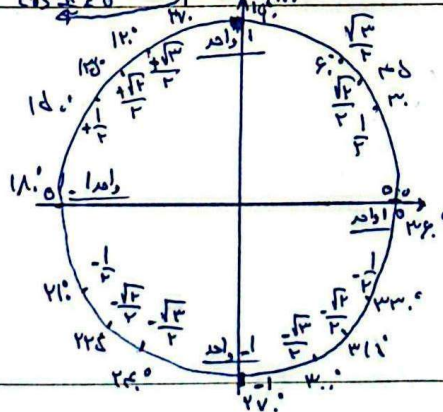
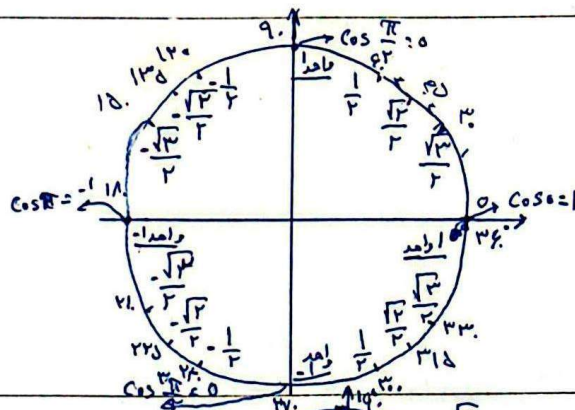


$\Rightarrow x^r \cdot f_m \neq 0 \Rightarrow \cancel{x^r \cdot f_m} = \cancel{x^r \cdot f_m} \Rightarrow \cancel{x^r \cdot f_m} = \cancel{x^r \cdot f_m} \Rightarrow \text{if } x = f, m = 0 \Rightarrow \text{تعريف نشأ}$
 $\Rightarrow D_f = \mathbb{R} - \{r, 0\}$
 $\Rightarrow x^r + m + r \neq 0 \Rightarrow \Delta = b^r \cdot f_{ac} < 0 \Rightarrow D_f = \mathbb{R}$

$$2) x^r - r_0 \neq 0 \Rightarrow x^{(r)}(x^r - r) \neq 0 \Rightarrow \begin{cases} x=0 \\ x: x^r - r \end{cases} \Rightarrow D_f = \mathbb{R} - \{0, \sqrt[r]{r}, -\sqrt[r]{r}\}$$

$\left. \begin{aligned} \text{ا) } x-1 \geq 0 &\Rightarrow x \leq 6 \rightarrow (-\infty, 6] \\ x-2 \geq 0 &\Rightarrow x \geq 2 \rightarrow [2, +\infty) \end{aligned} \right\} \xrightarrow{\cap} [2, 6]$

$x \cdot r > 0 \Rightarrow x > r \rightarrow [r, +\infty)$
 $x \cdot f \neq 0 \Rightarrow x \neq f \rightarrow \mathbb{R} - \{f\}$



$$\cos \frac{2\pi}{3} = -\frac{1}{2} \xrightarrow{x=1} \frac{1}{2} = \sin x \Rightarrow x = \frac{\pi}{6}, \frac{5\pi}{6}, \dots$$

$$\therefore \cos \frac{11\pi}{8} = \frac{\sqrt{2}}{2} \xrightarrow{x=1} \cdot \frac{\sqrt{2}}{2} = \sin n \Rightarrow n = \frac{7\pi}{8}, \frac{9\pi}{8}, \dots \quad \checkmark$$