

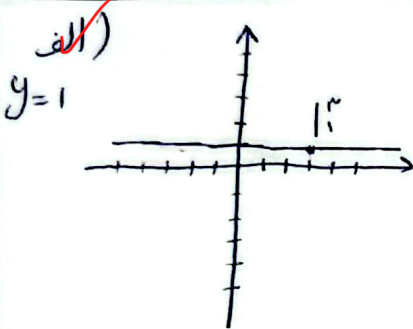
نام و نام خانوادگی: پاسخنمه تشریحی تکلیف شماره ۳... کلاس دهم سیر B

الف) $y^3 = 2x^2 + x \Rightarrow \begin{cases} y_1^3 = 2x_1^2 + x_1 \\ y_r^3 = 2x_r^2 + x_r \end{cases} \xrightarrow{x_1 = x_r} y_1^3 = y_r^3 \Rightarrow y_1 = y_r \checkmark$ تابع است

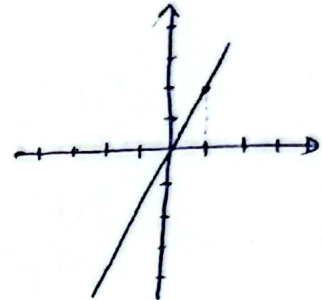
ب) $|y| + x^2 = x + 3 \xrightarrow{x=0} |y| = 3 \Rightarrow y = \pm 3$ تابع نیست

ج) $\sqrt{x-4} + |y+2| = 0 \Rightarrow \begin{cases} x=4 \\ y=-2 \end{cases} \checkmark$ تابع است

د) $x = \cos y \xrightarrow{x=0} \cos y = 0 \Rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}, \dots = k\pi + \frac{\pi}{2}$ تابع نیست

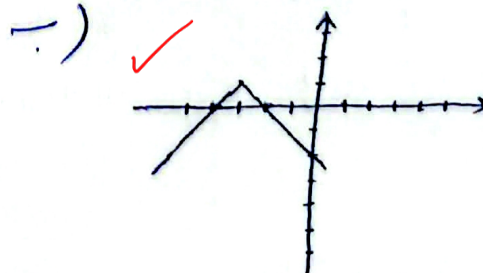
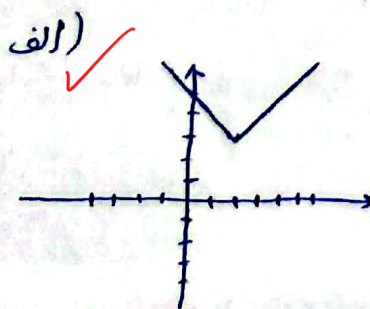
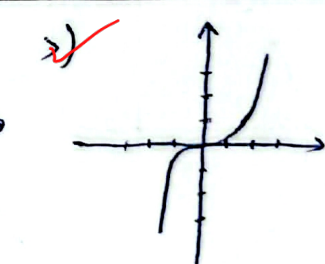
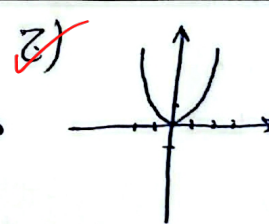
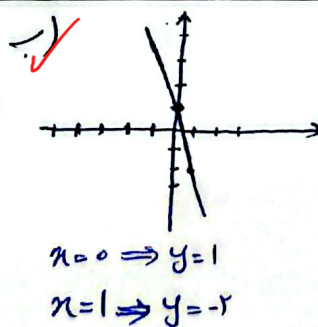
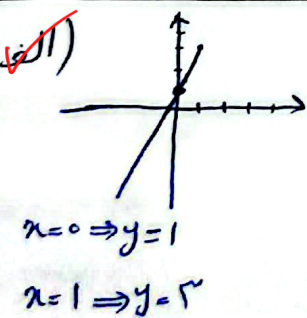


ب) $y = 2x + b$
 $\downarrow \quad \downarrow$
 $r = 2 + b \Rightarrow b = 0 \Rightarrow y = 2x$



الف) تابع صاف $\rightarrow y = x \Rightarrow a=1, b=0 \Rightarrow a+2b = 1+0 = 1$

ب) $\min |r| \Rightarrow r = -\frac{a}{2} \Rightarrow a = -2 \Rightarrow y = x^2 - 2x + b$
 $\xrightarrow{x=2, y=1} 1 = 4 - 4 + b \Rightarrow b = 1 \Rightarrow a+2b = -2+2 = 0$



دو تابع راست برآورد بالا
 $x=0 \Rightarrow y=4$

$y=0 \Rightarrow x = -2, -4$
 $x=0 \Rightarrow y = -2$

الف) $x^r - f x \neq 0 \Rightarrow x(x-f) \neq 0 \Rightarrow D_f = \mathbb{R} - \{f, 0\}$

ب) $x^r - \sqrt{x+1} \neq 0 \Rightarrow \Delta = b^r - f a c = f^2 - 4 = -1 \Rightarrow D_f = \mathbb{R}$

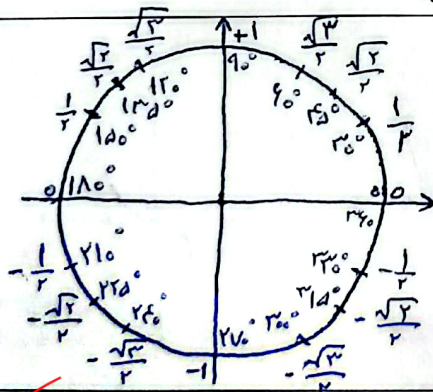
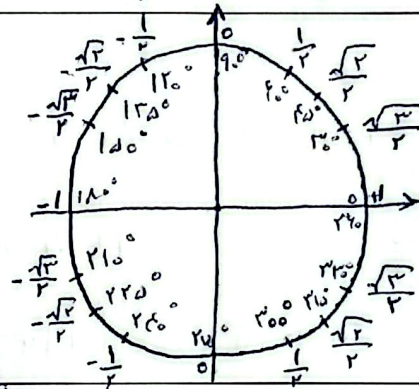
ج) $x^r + \frac{x}{x+f} \neq 0 \Rightarrow \Delta = b^r - f a c = 1 - 4 = -3 < 0 \Rightarrow D_f = \mathbb{R}$

د) $x^f - f x^r \neq 0 \Rightarrow x^r(x^r - f) = x^r(x-1)(x+1) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, 1, -1\}$

الف) $\begin{cases} 4-x \geq 0 \Rightarrow x \leq 4 \\ x-2 \geq 0 \Rightarrow x \geq 2 \end{cases} \Rightarrow D_f = [2, 4] \quad \checkmark \quad x+1 \neq 0 \Rightarrow D_f = \mathbb{R}$
 ← زیرا x همیشه مثبت یا صفر

ب) $\begin{cases} x-2 \geq 0 \Rightarrow x \geq 2 \\ x-f \neq 0 \Rightarrow x \neq f \end{cases} \Rightarrow D_f = [2, +\infty) - \{f\}$

ج) $x^r + |x| \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$



الف) $\cos \frac{r\pi}{r} = -\frac{1}{r} \Rightarrow \frac{x(-1)}{r} = \sin x \Rightarrow x = \frac{\pi}{2}, \frac{3\pi}{2}, \dots \Rightarrow x = \left\{ 2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2} \right\}$

ب) $\cos \frac{11\pi}{9} = \frac{\sqrt{r}}{r} \Rightarrow -\frac{\sqrt{r}}{r} = \sin x \Rightarrow x = \frac{r\pi}{r}, \frac{4\pi}{r}, \dots \Rightarrow x = \left\{ 2k\pi + \frac{r\pi}{r}, 2k\pi + \frac{4\pi}{r} \right\}$