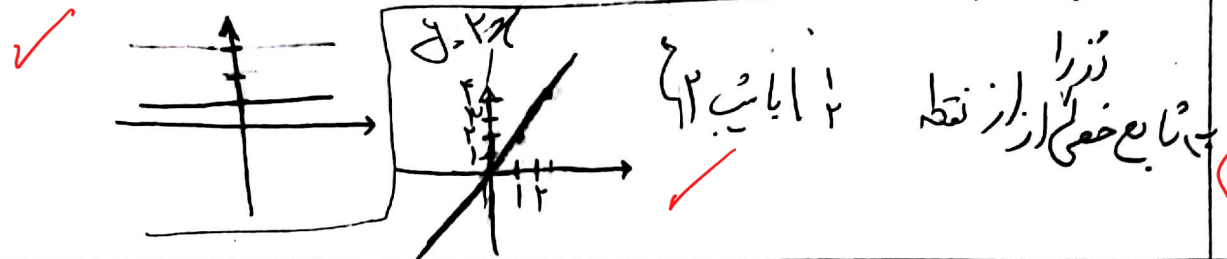


نام و نام خانوادگی: علی محمد پاسخنامه تشریحی تکلیف شماره ۳ کلاس:

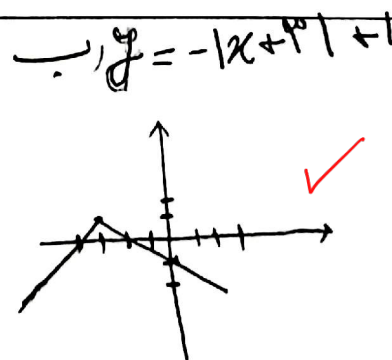
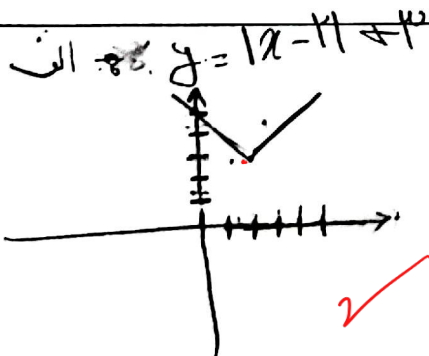
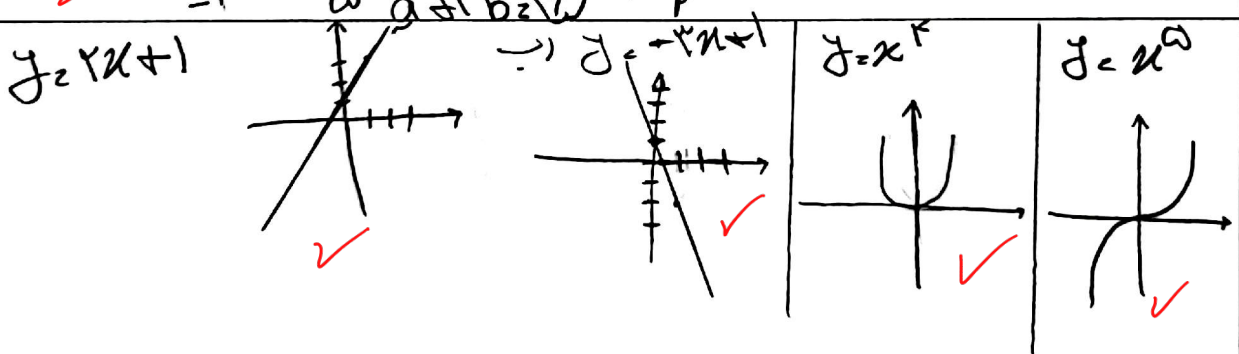
$\checkmark$ تابع است $y = 2x^2 \rightarrow \begin{cases} y_1 = 2x_1^2 - x_1 \\ y_2 = 2x_2^2 - x_2 \end{cases} \rightarrow y_1 = 2 \rightarrow y_2 = 2$
 $\checkmark$ تابع است $y = x^2 + x^3 \rightarrow y_1 = x_1^2 + x_1^3 \rightarrow y_2 = x_2^2 + x_2^3$
 $\checkmark$ تابع است $\sqrt{x-4} + y - 11 = 0 \rightarrow x-4=0 \Rightarrow x=4$
 $\checkmark$ تابع است $x \cos y \rightarrow x_1 \cos y_1 = 1 \rightarrow y_2 = \cos^{-1} x_2$

الف: تابع نسبت ندر از $y = k \rightarrow y_2 = k$ تابع



$\checkmark$ $y = ax + b$ $\xrightarrow{\text{نسبت ندر}} a=1, b=0 \Rightarrow y=x$
 $a+2b=1$

$\checkmark$ $y = 2x^2 + ax + b \xrightarrow{\text{min}} x = -\frac{a}{4} = -\frac{1}{2} \rightarrow b = -\frac{1}{2}$
 $a+2b=1$



$$\checkmark 1) x^2 - 4x \neq 0 \quad x(x-4) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, 4\}$$

$$\checkmark 2) x^2 - \sqrt{x+1} \neq 0 \quad \Delta = b^2 - 4ac = 1 - 4 \cdot (-1) = 5 > 0 \Rightarrow D_f = \mathbb{R}$$

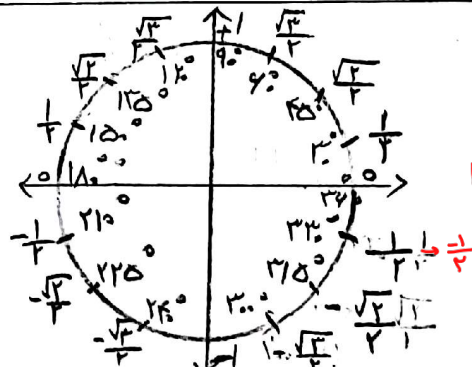
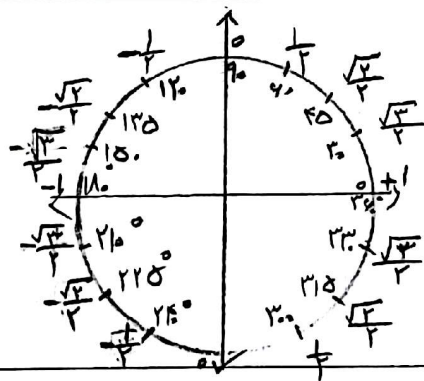
$$\checkmark 3) x^2 + x + 1 \neq 0 \quad \Delta = b^2 - 4ac = 1 - 4 = -3 < 0 \Rightarrow D_f = \mathbb{R}$$

$$\checkmark 4) x^2 - 4x^2 \neq 0 \Rightarrow x^2(x^2 - 4) = x^2(x+2)(x-2) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, -2, 2\}$$

$$\checkmark 5) \begin{cases} 4 - x > 0 \Rightarrow x < 4 \\ x - 2 > 0 \Rightarrow x > 2 \end{cases} \Rightarrow D_f = [2, 4)$$

$$\checkmark 6) \begin{cases} x - 2 > 0 \Rightarrow x > 2 \\ x - 4 \neq 0 \quad x \neq 4 \end{cases} \Rightarrow D_f = (2, \infty) - \{4\}$$

$$\checkmark 7) |x| + x^2 \neq 0 \quad \checkmark + \quad x \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$$



$$\cos \frac{5\pi}{4} = -\frac{1}{\sqrt{2}} \xrightarrow{\text{مربع}} -\frac{1}{2} \quad \sin \pi = \frac{1}{2} \Rightarrow x = \frac{\pi}{6}, \frac{5\pi}{6}, \dots \Rightarrow x = \left\{ 2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$$

$$\cos \frac{11\pi}{4} = \frac{\sqrt{3}}{2} \xrightarrow{\text{مربع}} \frac{3}{4} \Rightarrow \sin x = \frac{\sqrt{3}}{2} \Rightarrow x = \frac{\pi}{3}, \frac{2\pi}{3}, \dots \Rightarrow x = \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi + \frac{2\pi}{3} \right\}$$