

تابع است

$$f_1(x) = x^2 \rightarrow f_2(x) = x^2 + 1 \rightarrow f_3(x) = x^2 + 2x + 1$$

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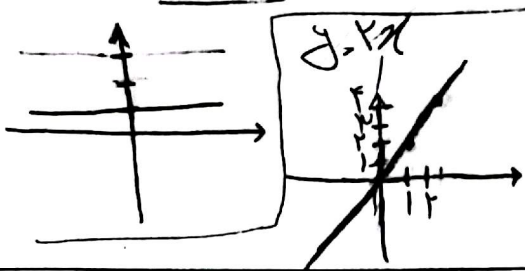
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تفاوت در نقطه
 تابع خطی از نقطه

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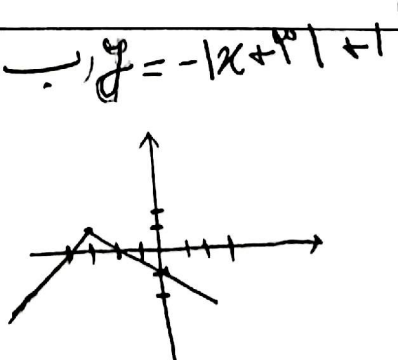
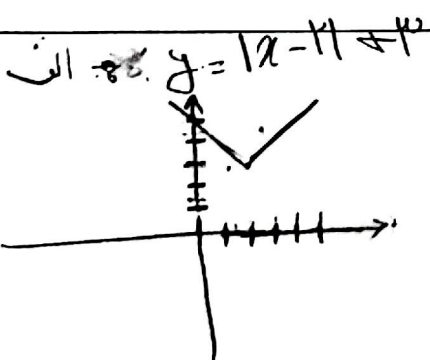
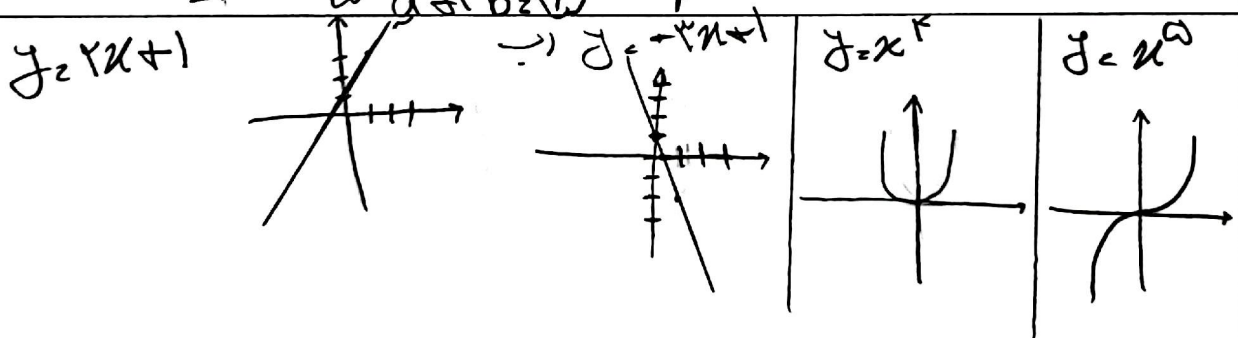
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$$\text{اف} , x^2 - 4x \neq 0 \quad x(x-4) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, 4\}$$

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

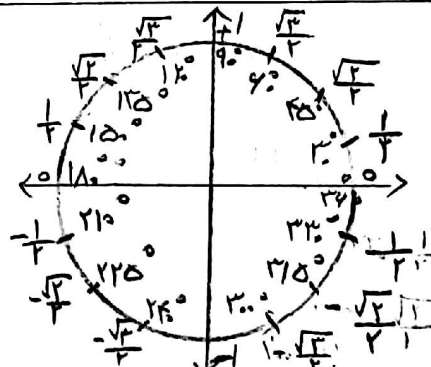
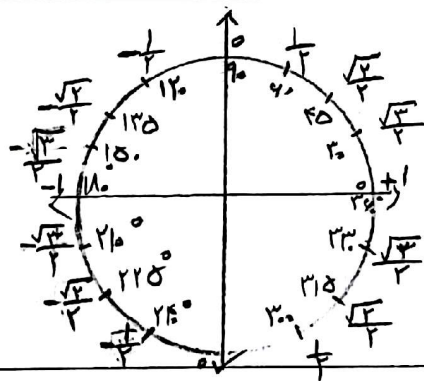
$$\text{ج} , x^2 + x + 1 \neq 0 \quad \Delta = b^2 - 4ac = 1 - 4 \cdot 1 \cdot 1 = -3 < 0 \Rightarrow D_f = \mathbb{R}$$

$$\text{د} , x^3 - x^2 \neq 0 \Rightarrow x^2(x-1) = x^2(x+1)(x-1) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, -1, 1\}$$

$$\text{اف} , \begin{cases} 4 - x > 0 \Rightarrow x < 4 \\ x - 2 > 0 \Rightarrow x > 2 \end{cases} \Rightarrow D_f = [2, 4) \quad \text{ب} , x^2 + 1 \neq 0 \Rightarrow D_f = \mathbb{R}$$

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

$$\text{د} , |x| + x^2 \neq 0 \quad \sqrt{+} \quad x=0 \Rightarrow D_f = \mathbb{R} - \{0\}$$



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

$$x = \left\{ 2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$$

$$\cos \frac{11\pi}{6} = \frac{\sqrt{3}}{2} \xrightarrow{\text{مقابل}} \frac{\sqrt{3}}{2} \Rightarrow \sin x = \frac{\sqrt{3}}{2} \Rightarrow x = \frac{\pi}{3}, \frac{2\pi}{3}, \dots$$

$$x = \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi + \frac{2\pi}{3} \right\}$$