

شماره تکلیف ۷

پاریس نبی زاده ، دوازدهم دختر

$$y = -\frac{1}{16} (x^2 - \frac{9}{8}x - 16) = -\frac{1}{16} \left((x - \frac{9}{8})^2 - \frac{169}{64} \right) \quad (1)$$

انتقال محور $\frac{17}{8}$ به راست

$$\rightarrow y = -\frac{1}{16} \left((x - 9)^2 - \frac{169}{64} \right) = -\frac{1}{16} (x - 9)^2 + \frac{169}{128}$$

انتقال محور $\frac{17}{8}$ به بالا

$$\rightarrow y = -\frac{1}{16} (x - 9)^2 + 16$$

$$-\frac{1}{16} (x - 9)^2 + 16 = 0 \quad (x - 9)^2 = 9$$

$$x - 9 = \pm 3$$

$$x = 12, 6$$

$$f(x) = -(x+1)(x-1) \rightarrow f(x+2) = -(x+3)(x-1)$$

$$f(2x+2) = -(2x+3)(2x-1)$$

$$\Rightarrow 1 - 2f(2x+2) = 2(2x+3)(2x-1) + 1$$

$$= 18x^2 + 12x - 8$$

$$\alpha = \frac{-12}{36} = -\frac{1}{3} \quad \beta = 2 - 8 - 8 = -14 \quad \alpha\beta = \frac{14}{3}$$

$$y = 16 - \sqrt{2x} \xrightarrow{\text{تبدیل به } y} y = 16 - \sqrt{2(x+1)} \quad (2)$$

$$\xrightarrow{\text{تبدیل به } x} y = \sqrt{2x+2} - 16 \xrightarrow{\text{تبدیل به } y} y = \sqrt{2x+2} + 16$$

$$\sqrt{2x+2} + 16 = 17 \rightarrow \sqrt{2x+2} = 1 \rightarrow 2x+2 = 1 \rightarrow 2x = -1$$

$$2x = -1 \Rightarrow x = -\frac{1}{2}$$

$$Df(x) = (a, 5] \rightarrow Df(x-1) = (a+1, 5] \quad (3)$$

$$Dg(x) = [-1, b) \rightarrow Dg(x+1) = [-2, b-1)$$

$$Df(x-1) \cap Dg(x+1) = (-2, 5) \begin{cases} a+1 = -2 \Rightarrow a = -3 \\ b-1 = 5 \Rightarrow b = 6 \end{cases}$$

$$a - b = -3 - 6 = -9$$

$$-3 < x \leq 8 \Rightarrow -\frac{1}{2} < \frac{x}{2} + 1 \leq \frac{5}{2} \quad (3)$$

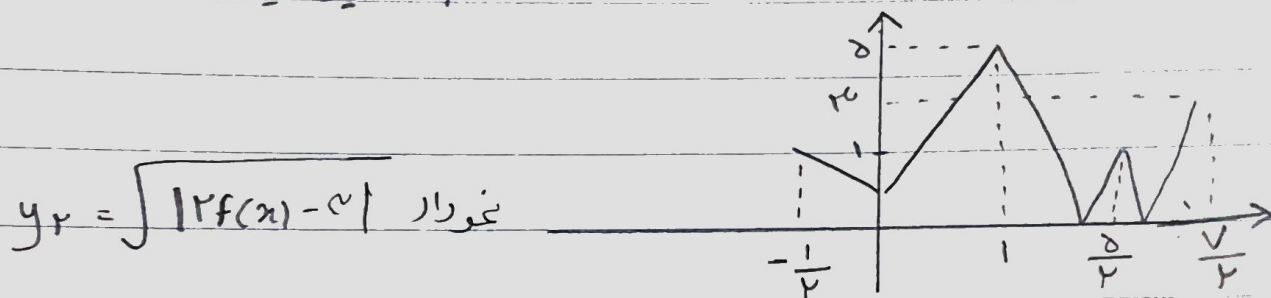
$$\Rightarrow f(x): x = \left[-\frac{1}{2}, \frac{5}{2}\right] \quad Df = \left[-\frac{1}{2}, \frac{5}{2}\right]$$

$$R f\left(\frac{x}{2} + 1\right) = y_1 \rightarrow y_1 = [-1, 2]$$

$$2f(x) - 3 = [-8, 1] \rightarrow |2f(x) - 3| = [0, 8]$$

$$\sqrt{|2f(x) - 3|} \rightarrow y_2 = [0, \sqrt{8}] \quad x_2 = \left[-\frac{1}{2}, \frac{5}{2}\right]$$

عبارت زیر را در یکال همواره نامنفی در باشد



$$x = \left[0, \frac{1}{a}\right) \rightarrow y = 0 \quad (4)$$

باتوجه به این بازه نمودار نسبت به محور y قرینه شده $\Leftarrow a < 0$

$$x = \left[\frac{1}{a}, \frac{2}{a}\right) \quad y = \frac{x}{a} \times 1$$

$$x = \frac{1}{a} \rightarrow y = \frac{1}{a^2} \times 1 = \frac{1}{a} \Rightarrow a = \pm 2 \xrightarrow{a < 0} a = (-2)$$

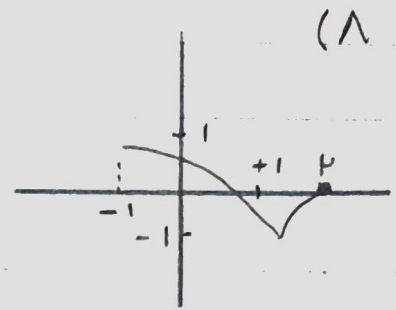
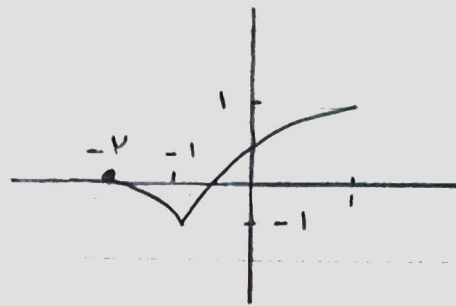
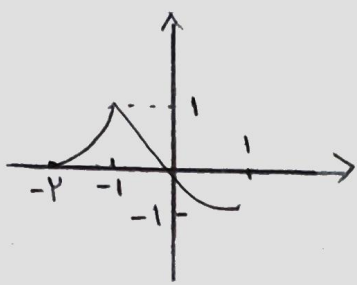
$$b = -\frac{2}{a} = -\frac{2}{-2} = 1 \quad b - a = 1 + 2 = 3$$

$$y = \log_{\frac{1}{2}} x + 2 \xrightarrow{\text{قرینه به محور } x} y = -\log_{\frac{1}{2}} x + 2 \quad (5)$$

$$\xrightarrow{\text{تغییر 3 واحد بالا}} y = 3 - \log_{\frac{1}{2}} x \xrightarrow{\text{قرینه به محور } y} 3 - \log_{\frac{1}{2}} 2 - x$$

$$g(-14) + g(-42) = 3 - \log_{\frac{1}{2}} 14 + 3 - \log_{\frac{1}{2}} 42$$

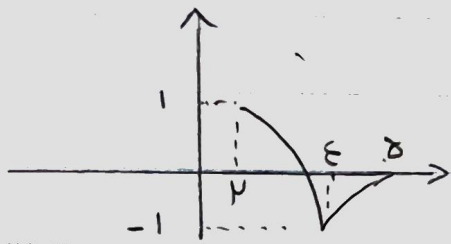
$$= 3 - 4 + 3 - 5 = (-4)$$



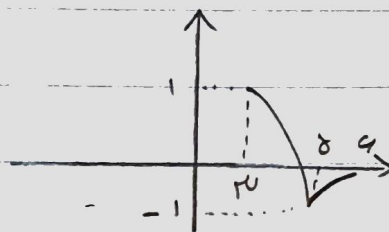
$$y = -f(r-x)$$

$$y = f(r-x)$$

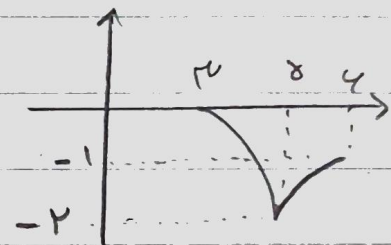
$$f(x+r)$$



$$f(x)$$



$$f(x-1)$$



$$f(x-1)-1$$

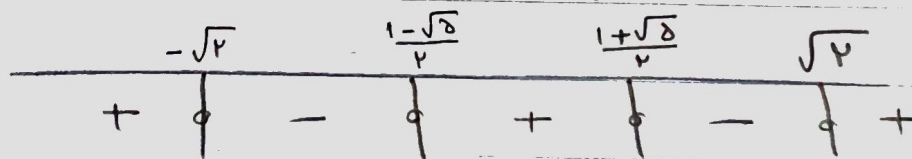
$$f(x) = \left| \frac{x+1}{r_{x+1}} \right| \xrightarrow{\text{واحد، واحد، واحد}} y = \left| \frac{x-1}{r_{(x-1)+1}} \right| \quad (9)$$

$$\xrightarrow{\text{واحد، واحد، واحد}} g(x) = \left| \frac{x-1}{r_{x-1}} \right| + 1$$

$$g(x) + x = \left| \frac{x-1}{r_{x-1}} \right| + x + 1 < 0 \Rightarrow \left| \frac{x-1}{r_{x-1}} \right| < -x-1$$

$$\xrightarrow{\text{توالت}} \left(\frac{x-1}{r_{x-1}} \right)^2 < (-x-1)^2 \rightarrow (x+1)^2 (r_{x-1})^2 - (x-1)^2 > 0$$

$$\xrightarrow{\text{ساد سازی}} \varepsilon (x^2 - 2) (x^2 - x - 1) > 0$$



$$\left| \frac{x-1}{r_{x-1}} \right| + x + 1 < 0 \quad \text{قد مطلق} \Rightarrow x + 1 < 0 \Rightarrow x < -1$$

$$\text{داده} \cap (-\infty, -1) \rightarrow x = (-\infty, -\sqrt{2})$$

$$g(x) = \sqrt{2\wedge f(x) - f'(x)} \quad (1.)$$

$$f(x) (2\wedge - f(x)) \geq 0 \Rightarrow f(x) = [0, 2\wedge]$$

$$f(0) = 0 \quad f(2) = 2\vee \Rightarrow f(x) > 2\wedge$$

$$f(x) = [0, 2\wedge] \rightarrow x = [0, 2\vee]$$

$$Df = \{0, 1, 2\} \quad \text{حيث } x \in \mathbb{R}$$