

پاریس نئی زارہ ، دوازدہم دھرتی ۱۹ آفرین! شماره تکلیف ۷

$$y = -\frac{1}{16} (x^2 - \frac{9}{8}x - 16) = -\frac{1}{16} \left((x - \frac{9}{8})^2 - \frac{181}{64} \right) \quad (1)$$

انتقال نمودار $\frac{17}{8}$ به راست

$$\rightarrow y = -\frac{1}{16} \left((x - 9)^2 - \frac{181}{64} \right) = -\frac{1}{16} (x - 9)^2 + \frac{181}{1024}$$

انتقال نمودار $\frac{17}{8}$ به بالا $\rightarrow y = -\frac{1}{16} (x - 9)^2 + 16$

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

$$x - 9 = \pm 3 \quad x = 7, 11 \quad \checkmark$$

$$f(x) = -(x+1)(x-16) \rightarrow f(x+2) = -(x+17)(x-14)$$

$$f(16x+2) = -(16x+17)(16x-14)$$

$$\Rightarrow 1 - 2f(16x+2) = 2(16x+17)(16x-14) + 1 \quad (2)$$

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

$$\alpha = \frac{-12}{36} = -\frac{1}{3} \quad \beta = 1 - 8 - 8 = -15 \quad \alpha\beta = \frac{1}{3} \quad \checkmark$$

$$y = 16 - \sqrt{16x} \xrightarrow{\text{یک واحد چپ}} y = 16 - \sqrt{16(x+1)} \quad (3)$$

$$\xrightarrow{\text{فرض شود}} y = \sqrt{16x+2} - 16 \xrightarrow{\text{یک واحد چپ}} y = \sqrt{16x+2} + 1$$

$$\sqrt{16x+2} + 1 = 17 \rightarrow \sqrt{16x+2} = 16 \rightarrow 16x+2 = 256$$

$$16x = 254 \Rightarrow x = \frac{127}{8} \quad \checkmark$$

$$Df(x) = (a, 8] \rightarrow Df(x-1) = (a+1, 8] \quad (4)$$

$$Dg(x) = [-1, b) \rightarrow Dg(x+1) = [-2, b-1) \quad (5)$$

$$D_{f(x-1)} \cap D_{g(x+1)} = (-2, 8) \quad \begin{cases} a+1 = -2 \Rightarrow a = -3 \\ b-1 = 8 \Rightarrow b = 9 \end{cases}$$

$$a - b = -3 - 9 = -12 \quad \checkmark$$

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

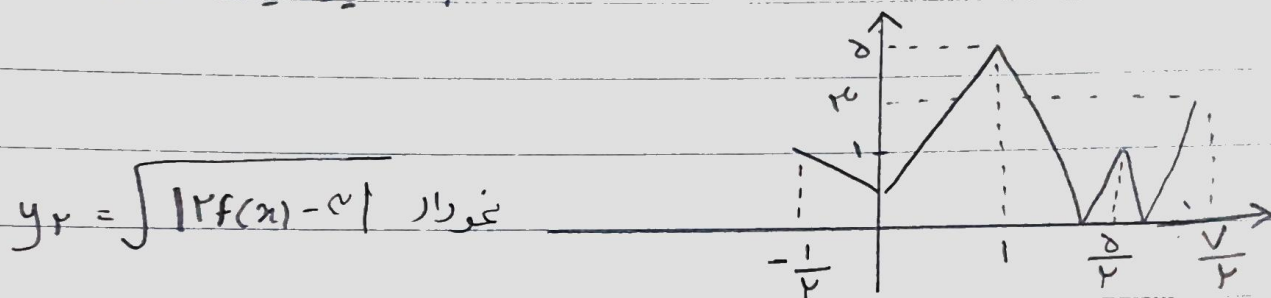
$$\Rightarrow f(x): x = \left[-\frac{1}{2}, \frac{5}{2}\right] \quad Df = \left[-\frac{1}{2}, \frac{5}{2}\right]$$

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

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

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

عبارت زیر رادیکال همواره نامنفی است. باشد



$$x = \left[0, \frac{1}{a}\right) \rightarrow y = 0 \quad (9)$$

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

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

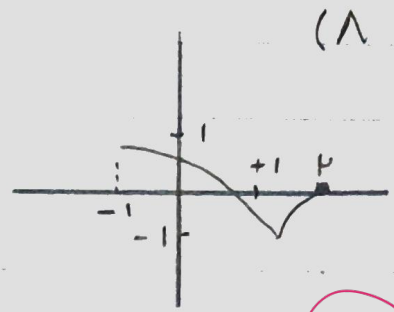
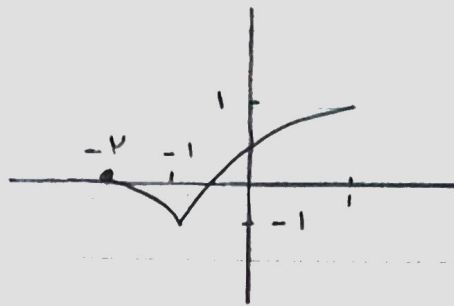
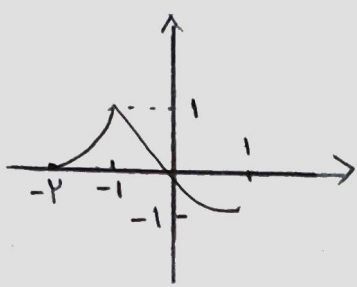
$$x = \frac{1}{a} \rightarrow y = \frac{1}{a^2} \times 1 = \frac{1}{a} \Rightarrow a = \pm 2 \xrightarrow{a < 0} a = (-2)$$

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

$$y = \log_2^{x+2} \xrightarrow{\text{قرینه به محور } x} y = -\log_2^{x+2}$$

$$\xrightarrow{\text{تغییر 3 واحد بالا}} y = 3 - \log_2^{x+2} \xrightarrow{\text{قرینه به محور } y} 3 - \log_2^{2-x}$$

$$g(-14) + g(-42) = 3 - \log_2^{14} + 3 - \log_2^{42} \\ = 3 - 4 + 3 - 6 = (-4)$$



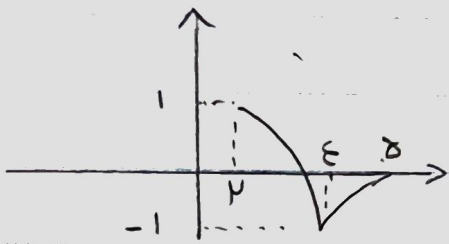
(A)

(2)

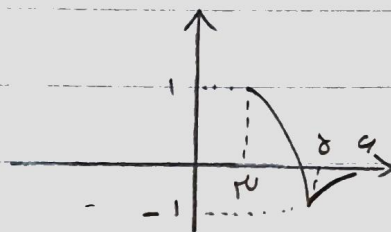
$$y = -f(x-a)$$

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

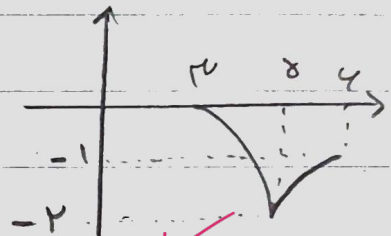
$$f(x+a)$$



$$f(x)$$



$$f(x-1)$$



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

$$f(x) = \left| \frac{x+1}{x^2+1} \right| \xrightarrow{\text{واحد، واحد، واحد}} y = \left| \frac{x-1}{x^2(x-1)+1} \right| \quad (9)$$

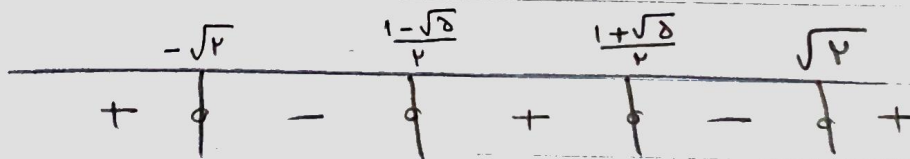
$$\xrightarrow{\text{واحد، واحد، واحد}} g(x) = \left| \frac{x-1}{x^2(x-1)} \right| + 1$$

(2)

$$g(x) + x = \left| \frac{x-1}{x^2(x-1)} \right| + x + 1 < 0 \Rightarrow \left| \frac{x-1}{x^2(x-1)} \right| < -x-1$$

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

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



$$\left| \frac{x-1}{x^2(x-1)} \right| + x + 1 < 0 \quad \text{قد مطلق} \Rightarrow x+1 < 0 \Rightarrow x < -1$$

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

$$g(x) = \sqrt{2\wedge f(x) - f'(x)} \quad f(x) = k(x-2)^{\frac{1}{2}+2V} \xrightarrow{(\cdot, \cdot)} 1 < \frac{2V}{\wedge} (1)$$

$$f(x) (2\wedge - f(x)) \geq 0 \Rightarrow f(x) = [0, 2\wedge] \text{ (1)}$$

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

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

$$Df = \{0, 1, 2\} \quad \text{سواء } x < 2V$$

$$f(x) < \cdot \rightarrow x = 0$$

$$f(x) = 2V \rightarrow x = \frac{1}{2} \rightarrow \cdot \leq x \leq \frac{1}{2} \rightarrow 2V$$