

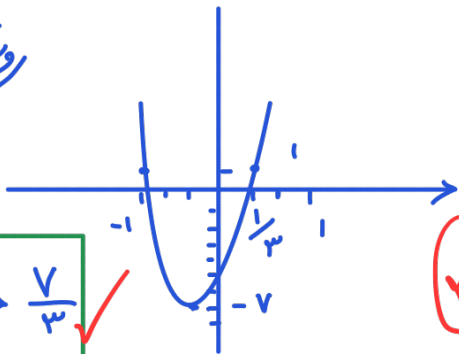
$$S|_x: -\frac{b}{2a} = -\frac{\frac{3}{5}}{\frac{2}{3}} = \frac{9}{10} \Rightarrow S|_{\frac{9}{10}} \Rightarrow S|_{\frac{9}{10}} \Rightarrow S|_{\frac{9}{10}}$$

$$y - \Delta y = -\frac{1}{3}(x - \Delta x)^2 + \frac{1}{5}(x - \Delta x) + 1$$

$$\Rightarrow \Delta x: \frac{17}{5} \Rightarrow y = -\frac{1}{3}(x - \epsilon)^2 + 3 = 0 \Rightarrow \frac{1}{3}(x - \epsilon)^2 = 3$$

$$(x - \epsilon)^2 = 9 \Rightarrow x = 1, x = 7$$

ریشه: α



$$\alpha = -\frac{1}{3} \Rightarrow \frac{1}{3}$$

$$B = -7 \Rightarrow \frac{1}{3}$$

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

$$x_5 = 1 \Rightarrow 3x + 2 = 1 \Rightarrow x = -\frac{1}{3}$$

$$y_5: f(3x + 2) = 4 \Rightarrow y = 1 - 2(4) = -7$$

$$\Rightarrow \alpha = -\frac{1}{3}, B = -7 \Rightarrow \frac{1}{3}$$

$$y = 3 - \sqrt{2x} \rightarrow 3 - \sqrt{2(x+1)} \rightarrow y = -3 + \sqrt{2x+2}$$

$$\rightarrow y = -3 + \sqrt{2x+2} + 5 \Rightarrow y = 2 + \sqrt{2x+2}$$

$$2 + \sqrt{2x+2} = \frac{1}{4} \Rightarrow \sqrt{2x+2} = \frac{3}{4} \Rightarrow 2x+2 = \frac{9}{16}$$

$$2x = \frac{1}{4} \Rightarrow x = \frac{1}{8}$$

$$2x = \frac{1}{4} \rightarrow x = \frac{1}{8}$$

$$D_f: a < x \leq \epsilon \xrightarrow{Df(x-1)} a < x-1 \leq \epsilon_1$$

$$D_g: -1 \leq x < b \xrightarrow{Dg(x+1)} -1 \leq x+1 < b_1$$

$$\Rightarrow D_g: D_f \cap D_g \Rightarrow (a+1, \epsilon] \cap [-1, b-1) = (2, 5)$$

$$\sqrt{(2, 5)} \cap \sqrt{[-1, 5)} \Rightarrow$$

$$D_y: [-3, 5] \Rightarrow D_y: [-\frac{1}{2}, \frac{1}{2}]$$

$$R_y: [-1, 2] \Rightarrow R_y: [0, \sqrt{5}]$$

$$\Rightarrow y_r: \sqrt{|2f(x) - 3|} \Rightarrow D_y: [-\frac{1}{2}, \frac{1}{2}]$$

$$R_y: [-1, 2] \Rightarrow R_y: [0, \sqrt{5}]$$

$$\Rightarrow -5 \leq 2f(x) - 3 \leq 1 \Rightarrow 0 \leq y_r \leq \sqrt{5}$$

$$y = \frac{b}{a} [ab] = \frac{1}{f}$$

$$\rightarrow ab = 1 \rightarrow b = \frac{a}{f}$$

$$\rightarrow \frac{b}{a} = \frac{1}{f}$$

$$\rightarrow a\left(\frac{a}{f}\right) = 1 \rightarrow \frac{a^2}{f} = 1 \Rightarrow a^2 = f \rightarrow a = \pm \sqrt{f}$$

$$a = \sqrt{f} \Rightarrow b = \frac{1}{\sqrt{f}} \Rightarrow b - a = -\frac{\sqrt{f}}{f}$$

$$a = -2, b = 1$$

$$b - a = \frac{3}{2}$$

داده های سوال:
 $f(0) = 0$
 $f(b) = \frac{1}{f}$

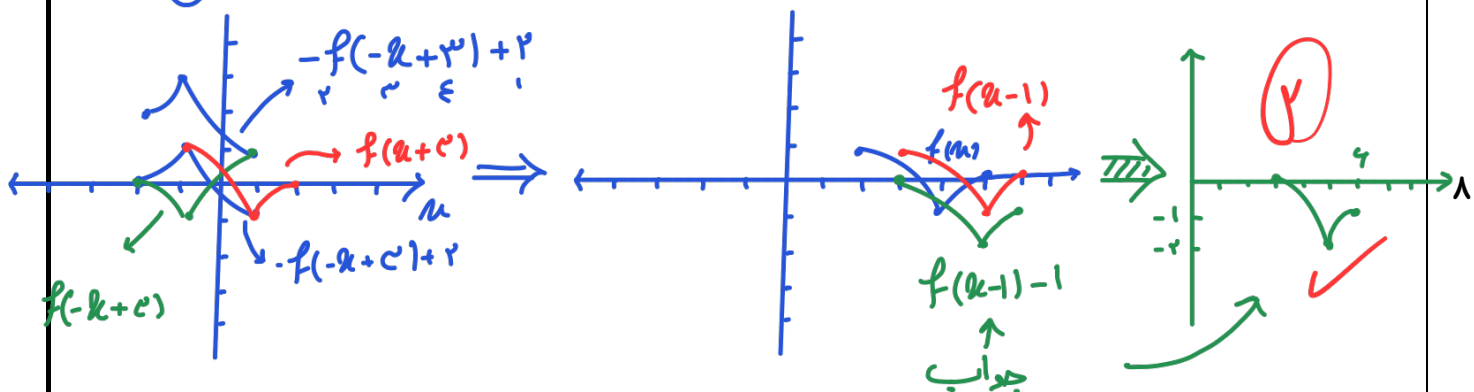
$$\log_r x \xrightarrow{x \rightarrow x+r} \log_r (x+r) \xrightarrow{y \rightarrow -y} -\log_r (x+r) \xrightarrow{+3} -\log_r (x+r) + 3$$

$$x \rightarrow -x \rightarrow g(x) = -\log_r^{-x+r} + 3$$

$$g(-14) = -\log_r^{14} + 3 \Rightarrow -4 + 3 = -1$$

$$g(-62) = -\log_r^{62} + 3 \Rightarrow -9 + 3 = -6$$

$$\Rightarrow -1 + (-3) = -4$$



$$f(x) = \left| \frac{x+1}{2x+1} \right| \xrightarrow{x \rightarrow x-2} \left| \frac{x-1}{2x-3} \right| + 1$$

$$x+1 + \left| \frac{x-1}{2x-3} \right| < 0 \Rightarrow \left| \frac{x-1}{2x-3} \right| < -x-1 \Rightarrow -x-1 > 0 \Rightarrow x < -1$$

$$x < -1 \rightarrow \frac{x-1}{2x-3} < -x-1$$

$$\frac{2x^2-4}{2x-3} < 0 \Rightarrow \frac{2(x-\sqrt{2})(x+\sqrt{2})}{2x-3} < 0$$

$$f(x) = x^3 \xrightarrow{y \rightarrow +K} \frac{y}{3} \Rightarrow x \rightarrow x+2$$

$$10 \rightarrow 12 \rightarrow \Delta x = 2 \Rightarrow (x-2)^3 + 27$$

$$27f(x) - f'(x) \geq 0 \Rightarrow f(x)(27 - f'(x)) \geq 0 \rightarrow 0 \leq f(x) \leq 27$$

$$\Rightarrow 0 \leq (x+2)^3 + 27 \leq 27 \rightarrow -27 \leq (x+2)^3 \leq 0$$

$$f(x) = \frac{27}{x}(x-2)^3 + 27$$

$$\Rightarrow [-5, -2] \rightarrow \text{عدد صحیح}$$