

19, 5

بسم رب الذي خلق السموات

ستاتين (علاقه زاده)

$$f\left(\frac{3x+2}{5}\right)$$

$$D_f = [-2, 4]$$

$$-2 \leq \frac{3x+2}{5} \leq 4$$

(2) (1)

$$\begin{aligned} -10 &\leq 3x+2 \leq 20 \\ -12 &\leq 3x \leq 18 \end{aligned}$$

$$-4 \leq x \leq 6 \checkmark$$

$$D_{f'} = [-2, 3] \quad D_f = ?$$

$$f'(x) = f(3x-2) \quad (2) \quad (2)$$

$$D_f = [-1, 5] \checkmark$$

$$-2 \leq x \leq 3 \rightarrow -1 \leq 3x-2 \leq 7$$

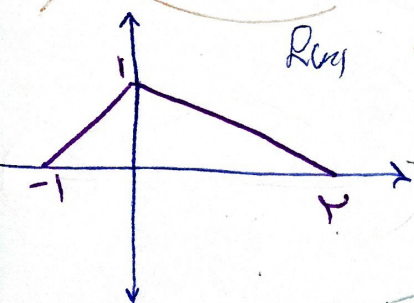
$$f'(x) = f\left(\frac{3x+1}{2}\right) \quad D_{f'} = [-1, 3]$$

$$D_{f(2-\delta x)} \quad (2) \quad (3)$$

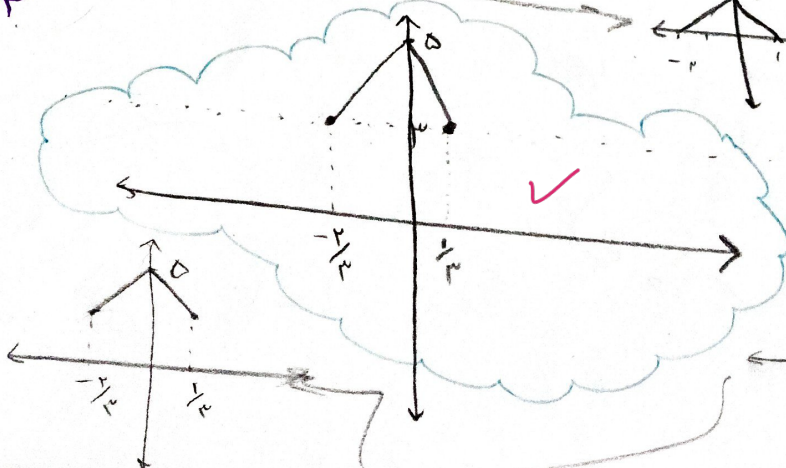
$$\begin{aligned} -1 &\leq x < 3 \\ -3 &\leq -\delta x < 3 \end{aligned} \Rightarrow -\frac{3}{\delta} < x \leq \frac{3}{\delta} \Rightarrow D = \left(-\frac{3}{\delta}, \frac{3}{\delta}\right]$$

$$-1 \leq 2-\delta x < 3$$

$$D = \left(-\frac{3}{\delta}, \frac{3}{\delta}\right]$$



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

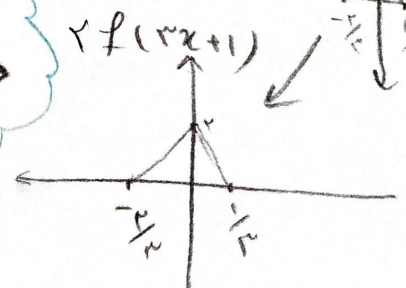
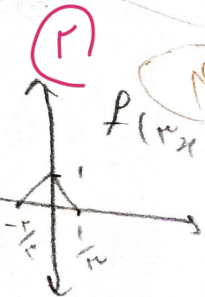
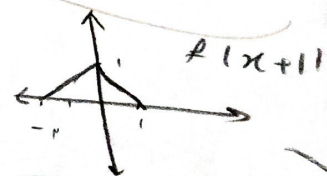


$$3x+1=2$$

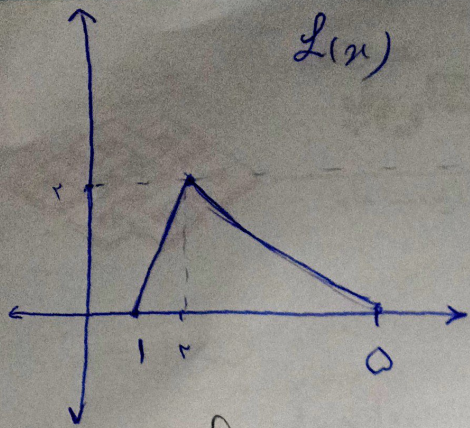
$$x=\frac{1}{3}$$

$$3x+1=-1$$

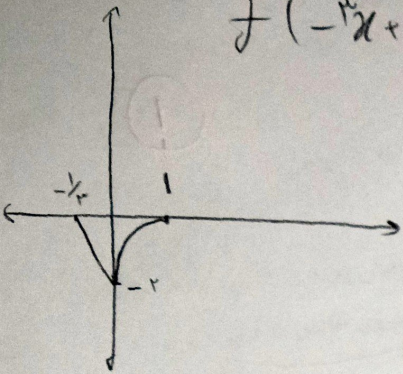
$$x=-\frac{2}{3}$$



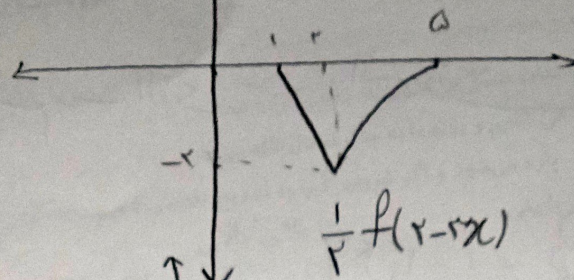
$L(x)$



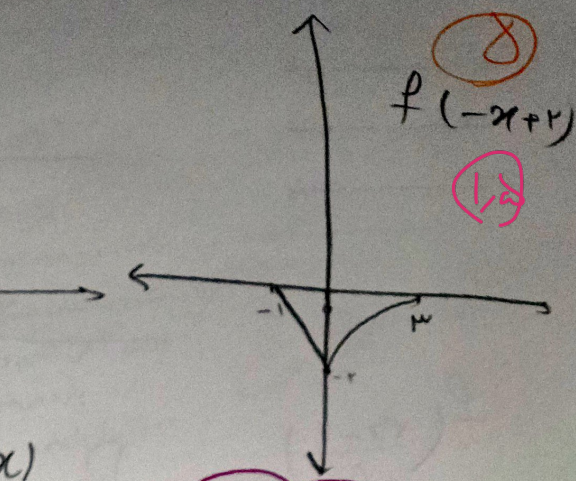
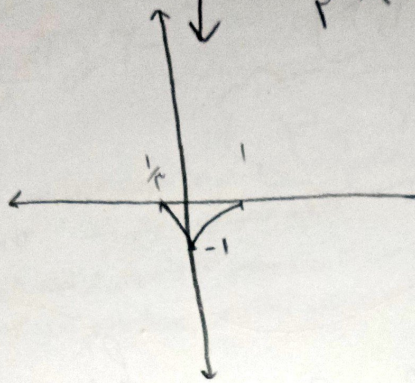
$f(-x+2)$



$f(-x)$
قد شده سبب محور ها را



$\frac{1}{3}f(x-2)$



صغی آفد

$$-\frac{1}{3}\left((x-\frac{5}{2})^2 - \frac{16}{3}\right)$$

$$\Rightarrow a(x-h)^2 + k \Rightarrow$$

(2) (4)

$$-\frac{1}{3}(x-4)^2 + 3 \Rightarrow -\frac{1}{3}(x^2 - 8x + 16) + 3 =$$

$$(x-4)^2 = 9$$

$$x-4 = \pm 3$$

$$x=7$$

$$x=1$$

طالایی بالاخره!!! چه شد؟

$f(x) \rightarrow k$

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

$$\beta = -7$$

$$\alpha\beta = \frac{7}{3}$$

$$y = 1 - \frac{1}{3}f(3x+2)$$

$$y = -7$$

$$3x+2=1$$

$$x = -\frac{1}{3}$$

$$D'f = (a+1, 5]$$

$$D'g = [-2, b-1]$$

(2) (1)

$$b-1=5 \Rightarrow b=6$$

$$a+1=-2 \Rightarrow a=-3$$

$$a-b = -9$$

9

2

102

2

$$|f(x) - 3| \geq 0$$

قدر مطلق همیشه بزرگتر مساوی صفر است.
پس گاهی است برای این سوال دامنه $f(x)$ را بیا بیفز.

$$-3, 5 \xrightarrow{x+1} [-\frac{1}{2}, \frac{7}{2}]$$

$$\sqrt{|-x-3|} = \sqrt{5} \Rightarrow \text{برای تابع } f(x) \text{ و } f(\frac{x}{2}+1) \text{ برابری}$$

$$\Rightarrow R = [0, \sqrt{5}]$$

$$f(x) = \left| \frac{x+1}{2x+1} \right| \xrightarrow{\text{دو طرفه}} \left| \frac{(x-2)+1}{2(x-2)+1} \right| + 1 = g(x)$$

$$1 + \left| \frac{x-1}{2x-3} \right| + x < 0 \Rightarrow x = \frac{1 \pm \sqrt{5}}{2}$$

جواب ندارد

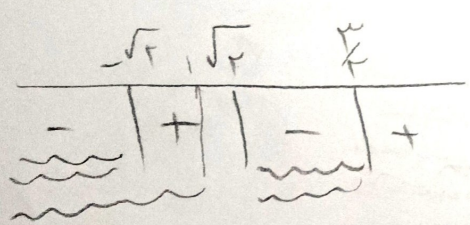
$\frac{3}{2}$

+

جواب ندارد

$$\frac{x-1}{2x-3} + x + 1 < 0$$

$$\frac{2(x^2-2)}{2x-3} < 0$$



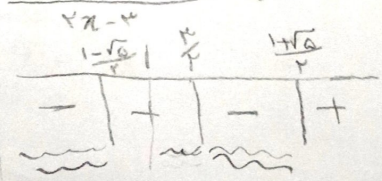
$$S = (-\infty, -\sqrt{2}) \cup (-\sqrt{2}, \frac{3}{2})$$

$$\frac{1-x}{2x-3} + x + 1 < 0$$

$$\frac{1-x+2x^2-3x+2x-3}{2x-3} < 0$$

$$\frac{2x^2-2x-2}{2x-3} < 0$$

$$\frac{2(x^2-x-1)}{2x-3} < 0$$

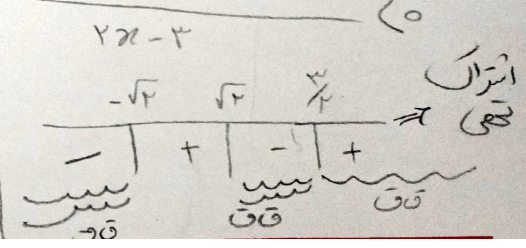


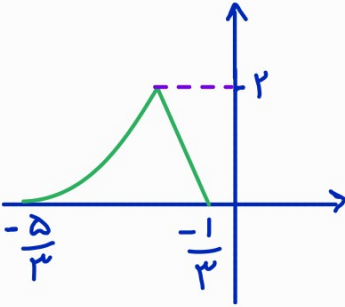
$$\frac{x-1}{2x-3} + x + 1 < 0$$

$$\frac{x-1+2x^2-3x+2x-3}{2x-3} < 0$$

$$\frac{2x^2-2x-2}{2x-3} < 0$$

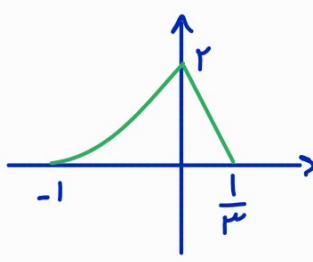
$$\frac{2(x-\sqrt{2})(x+\sqrt{2})}{2x-3} < 0$$





$$y = f(r_n)$$

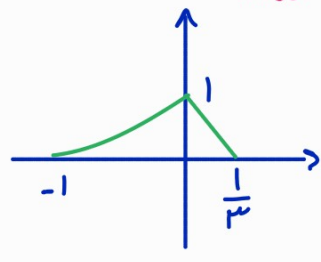
واحد به راست $\frac{2}{3}$



$$y = f(r_n - \frac{1}{3})$$

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

→



$$y = \frac{1}{2} f(r - r_n)$$

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