

بسم رب الذي خلق السموات

ستایش عارفانه

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

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

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

1

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

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

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

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

2

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

$$D_f = [-1, 7]$$

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

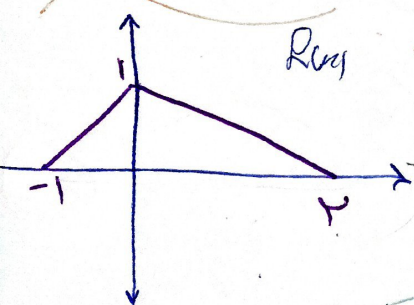
$$D_{f(2-\delta x)}$$

3

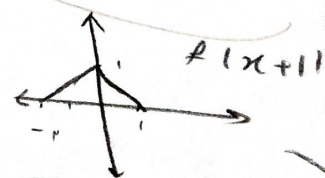
$$\begin{aligned} -1 &\leq x < 3 \Rightarrow -1 < \frac{3x+1}{2} < 8 \\ -3 &\leq -\delta x < 3 \Rightarrow -\frac{3}{\delta} < x \leq \frac{3}{\delta} \Rightarrow D = \left(-\frac{3}{\delta}, \frac{3}{\delta}\right] \end{aligned}$$

$$-1 \leq 2-\delta x < 8$$

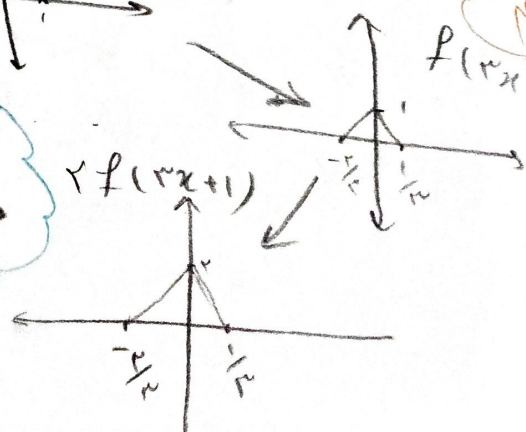
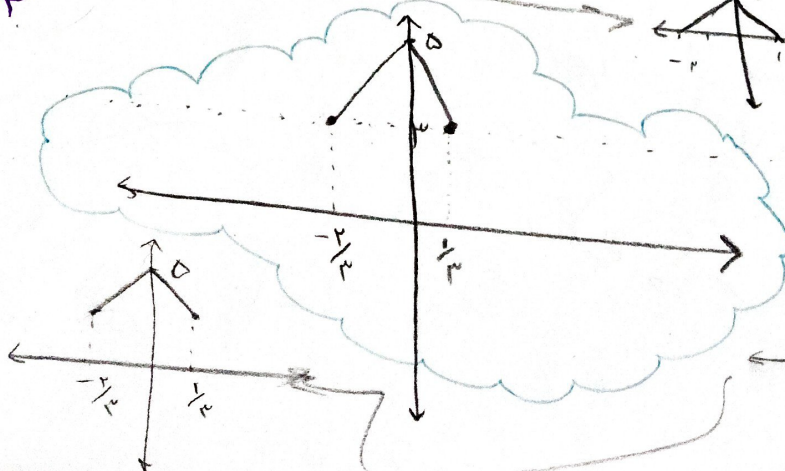
$$D = \left(-\frac{3}{\delta}, \frac{3}{\delta}\right]$$

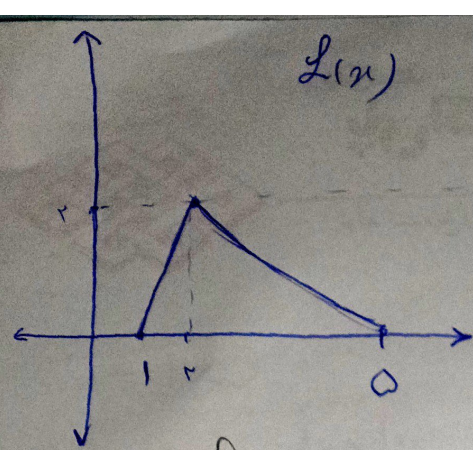


$$2f(3x+1) + 2 = ?$$

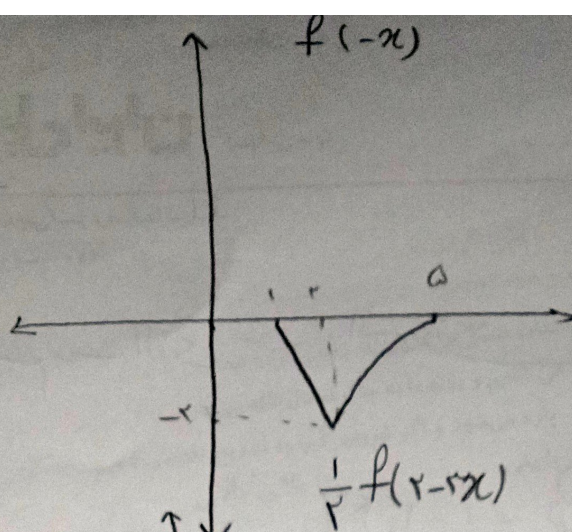
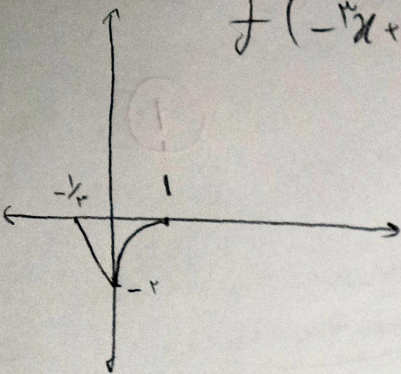


$$\begin{aligned} 3x+1 &= 2 \\ x &= \frac{1}{3} \\ 3x+1 &= -1 \\ x &= -\frac{2}{3} \end{aligned}$$

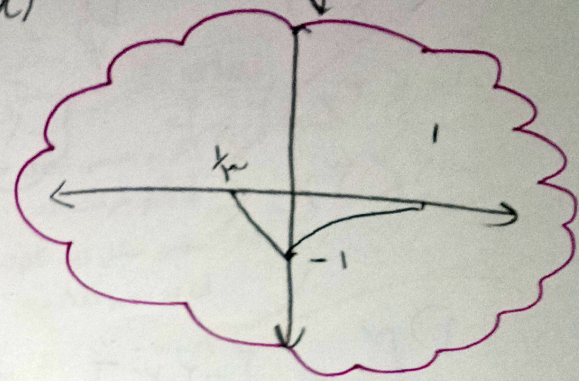
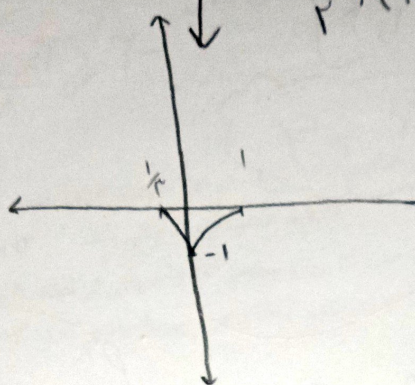




$$f(-x+r)$$



$$\frac{1}{r} f(r-x)$$



$$-\frac{1}{r} \left((x-\frac{r}{a})^2 - \frac{\lambda f}{ra} \right)$$

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

$$-\frac{1}{r} (x-\frac{r}{a})^2 + \frac{r}{a} \Rightarrow -\frac{1}{r} (x^2 - \lambda x + \frac{\lambda^2}{a^2}) + \frac{r}{a} =$$

$$-\frac{1}{r} (x-\frac{r}{a})^2 = -\frac{r}{a}$$

$$x - \frac{r}{a} = \pm \sqrt{\frac{r}{a}}$$

$$x = \frac{r}{a} + \sqrt{\frac{r}{a}}$$

$$x = \frac{r}{a} - \sqrt{\frac{r}{a}}$$

بالجزء!!!

$$f(x) \rightarrow \frac{1}{r}$$

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

$$\beta = -\frac{r}{a}$$

$$\alpha \beta = \frac{1}{r}$$

$$y = 1 - \frac{1}{r} f(\frac{r}{a}x + \frac{r}{a})$$

$$\frac{r}{a}x + \frac{r}{a} = 1$$

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

$$D'f = (a+1, \delta]$$

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

$$b-1 = \delta \Rightarrow b = \delta + 1$$

$$a+1 = -r \Rightarrow a = -r-1$$

$$a-b = -9$$

9

قدر مطلق همواره بزرگتر مساوی صفر است.
پس گاهی است برای این سوال دامنه $f(x)$ را بیابیم.

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

برای تابع $f(x)$ و $f(\frac{x}{2}+1)$ برابر است
 $\sqrt{|-x-3|} = \sqrt{5} \Rightarrow R = [0, \sqrt{5}]$

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

10

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

جواب ندارد

$\frac{3}{2}$

+

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

-	+	-	+
---	---	---	---

$\mathcal{C}^* = (-\infty, -\sqrt{2})$

$\frac{1-x}{2x-3} + x + 1 < 0$
 $\frac{1-x+2x^2-3x+2x-3}{2x-3} < 0$
 $\frac{2x^2-2x-2}{2x-3} < 0$
 $\frac{2(x^2-x-1)}{2x-3} < 0$
 $\frac{3}{2}, \frac{1+\sqrt{5}}{2}, \frac{1-\sqrt{5}}{2}$

-	+	-	+
---	---	---	---

جواب ندارد
 $\frac{x-1}{2x-3} + x + 1 < 0$
 $\frac{x-1+2x^2-3x+2x-3}{2x-3} < 0$
 $\frac{2x^2-2x-2}{2x-3} < 0$
 $\frac{2(x-\sqrt{2})(x+\sqrt{2})}{2x-3} < 0$
 $\frac{3}{2}, \sqrt{2}, -\sqrt{2}$

-	+	-	+
---	---	---	---

 اشتباه
 قق قق قق