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تکثیر اعداد صحیح، تکثیر کسرها، و عبارات دخیل

$$f(x) \Rightarrow D_f = [-2, 4]$$

$$f\left(\frac{3x+2}{5}\right) \Rightarrow -2 \leq \frac{3x+2}{5} \leq 4 \rightarrow -10 \leq 3x+2 \leq 20$$

$$\downarrow \rightarrow -12 \leq 3x \leq 18 \rightarrow \underline{-4 \leq x \leq 6}$$

$$D_f = [-4, 6]$$

$$f(3x-2) \rightarrow D_{f(3x-2)} = [-2, 3] \rightarrow -2 \leq x \leq 3 \rightarrow -6 \leq 3x \leq 9$$

$$D_f = ? \rightarrow -1 \leq 3x-2 \leq 7$$

$$\underline{2 \rightarrow [-1, 7]}$$

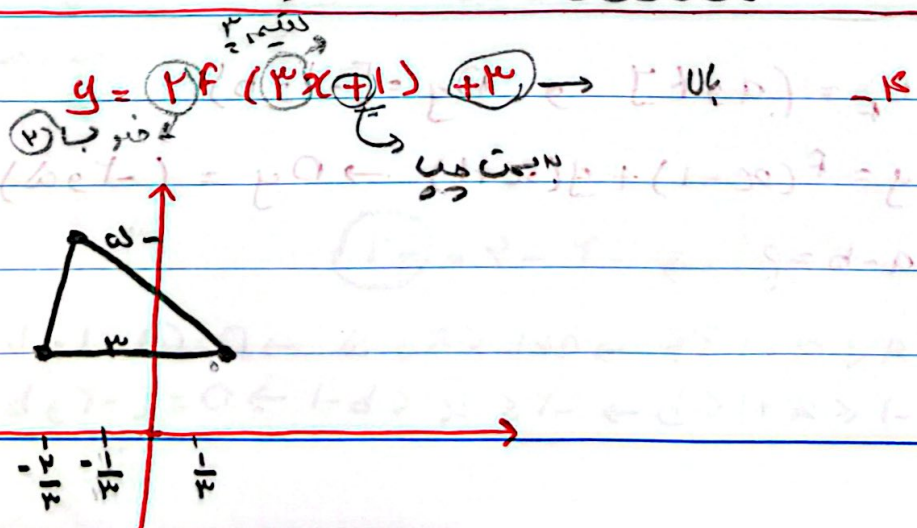
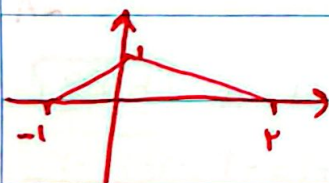
$$f\left(\frac{3x+1}{2}\right) \rightarrow D_f = [-1, 3] \rightarrow -1 \leq x \leq 3 \rightarrow -2 \leq 3x \leq 9$$

$$f(2-5x) = ? \rightarrow -2 \leq 3x+1 \leq 10$$

$$\downarrow \rightarrow -1 \leq \frac{3x+1}{2} \leq 5$$

$$-1 \leq 2-5x \leq 10 \quad [-1, 5] = D_f$$

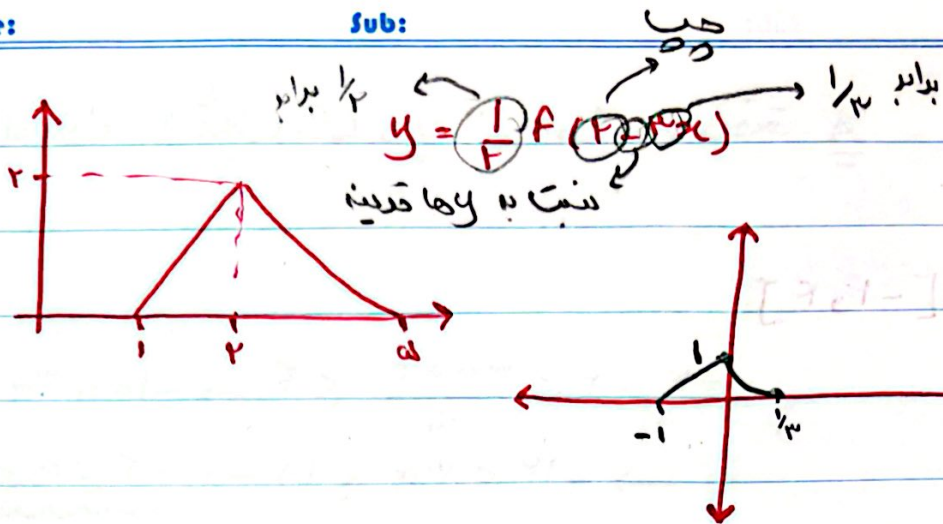
$$-3 \leq -5x \leq 3 \rightarrow -\frac{3}{5} \leq x \leq \frac{3}{5} \rightarrow \underline{\left(-\frac{3}{5}, \frac{3}{5}\right]}$$



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$$y = -\frac{1}{\mu} x^2 + \frac{2}{\mu} x + 1 \rightarrow x_S = -\frac{b}{2a} = -\frac{\frac{2}{\mu}}{2(-\frac{1}{\mu})} = \frac{1}{1} = 1$$

$$y = -\frac{1}{\mu} (x-1)^2 + 1 = 0 \rightarrow \frac{1}{\mu} (x-1)^2 = 1 \rightarrow (x-1)^2 = \mu$$

$$\begin{aligned} x-1 &= \sqrt{\mu} \rightarrow x = 1 + \sqrt{\mu} \\ x-1 &= -\sqrt{\mu} \rightarrow x = 1 - \sqrt{\mu} \end{aligned}$$

د این نتایج قطع و کند

$$y = 1 - 2F(\mu x + 1) \rightarrow x_S = \frac{-1 + \mu}{2} = 1$$

بسیار مقدار $\Rightarrow (1, 1) \rightarrow \mu a + 1 = 1 \rightarrow \mu a = 0 \rightarrow a = 0$

$\Rightarrow B = 1 - 2F(1) = 1 - 2(\mu) = 1 - 2\mu = 1 - 2 = -1$

$$\Rightarrow AB = (-1)(-1) = 1$$

$$D_f = (a, 1] \text{ و } D_g = [-1, b)$$

$$y = f(x-1) + g(x+1) \rightarrow D_y = (-2, 2) \quad b-1 = a \rightarrow b = 1$$

$$a-b = ? \rightarrow -2 - 1 = -3$$

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

$$a < x-1 \leq 1 \rightarrow a+1 < x \leq 2 \rightarrow D = (a+1, 2]$$

$$-1 \leq x+1 < b \rightarrow -2 \leq x < b-1 \rightarrow D = [-2, b-1)$$

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$$y_r = \sqrt{|2F(x) - 3|} \rightarrow |2F(x) - 3| \geq 0 \rightarrow |F(x)| \geq \frac{3}{2} \rightarrow F(x) \geq \frac{3}{2} \quad \text{a}$$

$$y_r = F\left(\frac{x}{r} + 1\right) \rightarrow \text{د} = [-1, 2] \quad x \in \left[\frac{3}{2}, \frac{5}{2}\right] \leftarrow y_r \text{ دېښه}$$

$$\hookrightarrow \left[\frac{3}{2} + 1, \frac{5}{2} + 1 \right] = \left[\frac{5}{2}, \frac{7}{2} \right] = D_{y_r}$$

$$\text{د } y_r \text{ دېښه زېږدېږي} \rightarrow R_{y_r} = [0, 1]$$

$$F(x) = \left| \frac{x+1}{2x+1} \right|$$

$$g(x) = F(x-2) + 1 = \left| \frac{x-1}{2x-3} \right| + 1 \quad \text{b}$$

$$x + g(x) < 0 \leadsto \left| \frac{x-1}{2x-3} \right| < -x-1$$

$$\oplus \text{ دېښه} \hookrightarrow -x-1 > 0 \rightarrow x < -1$$

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

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

$$\text{نېټه} \rightarrow (-\infty, -\sqrt{2})$$

$$x < -1$$

خسته ښارید