

$$-2 \leq x \leq 4 \rightarrow -2 \leq \frac{3x+1}{5} \leq 4 \rightarrow -12 \leq 3x+1 \leq 19$$

$$\rightarrow -13 \leq 3x \leq 18 \rightarrow D_f = [-1, 6]$$

$$-2 \leq x \leq 3 \rightarrow -6 \leq 3x \leq 9 \rightarrow -1 \leq 3x+1 \leq 7$$

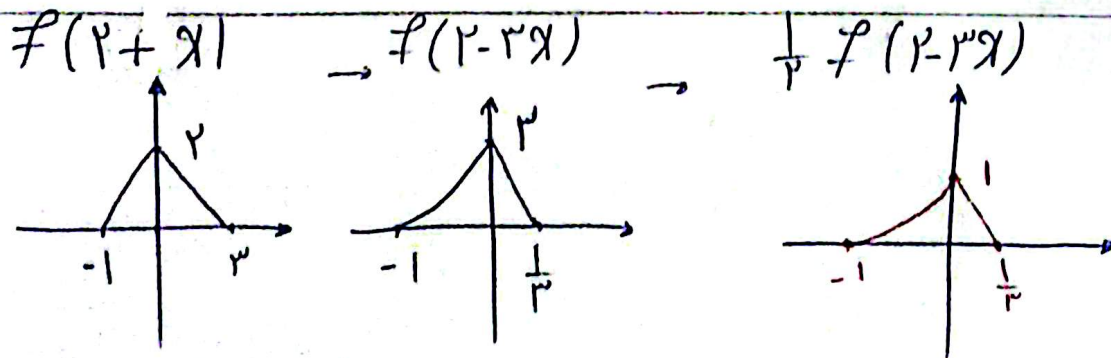
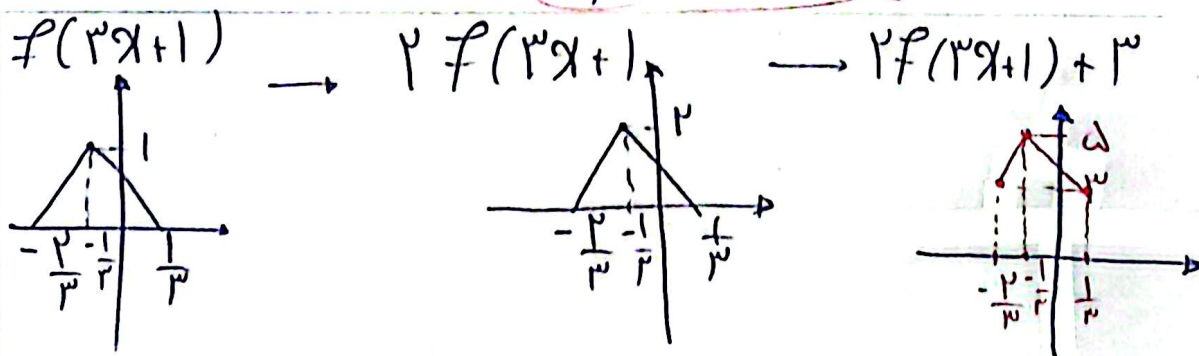
$$\rightarrow D_f = [-1, 7]$$

$$-1 \leq x \leq 3 \rightarrow -3 \leq 3x \leq 9 \rightarrow -2 \leq 3x+1 \leq 10$$

$$\rightarrow -1 \leq \frac{3x+1}{2} \leq 5 \rightarrow D_f = [-1, 5]$$

$$-1 \leq x \leq 3 \rightarrow -3 \leq 3x \leq 9 \rightarrow -\frac{3}{5} \leq x \leq \frac{3}{5}$$

$$D_f = \left(-\frac{1}{5}, \frac{1}{5}\right)$$



از اینجا به حین اشتغال ضرب x عوض نمی شود پس:

$$-\frac{1}{3}(x-4)^2 + 3 \rightarrow -\frac{1}{3}(x-4)^2 + 3 = 0 \rightarrow (x-4)^2 = 9$$

$$x^2 + 14x + 9 \rightarrow x^2 - 14x + 7 = 0 \rightarrow \boxed{x=1, 7}$$

راس سهمی مادی: $(1, 4)$

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

$$1 - 2x^2 = 7 \rightarrow y = \frac{1}{3}$$

$$\boxed{\frac{1}{3}, -\frac{1}{3} - 7}$$

$$Df \cdot (a, 4] / Dg \cdot [-1, b)$$

$$a < x-1 \leq 4 \rightarrow a+1 < x \leq 5 \rightarrow (-2, 5)$$

$$-1 \leq x+1 < b \rightarrow -2 \leq x < b-1$$

$$a-b = -9$$

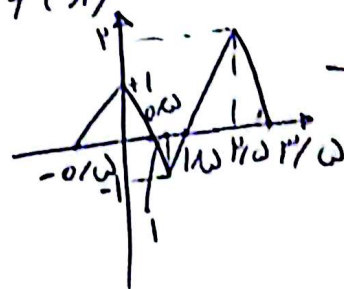
$$a = -3$$

$$b = 6$$

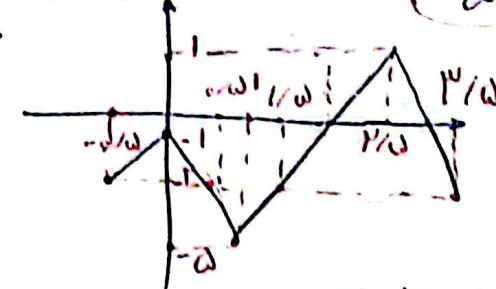
$$a+1 = -2$$

$$b-1 = 5$$

$$f(x)$$



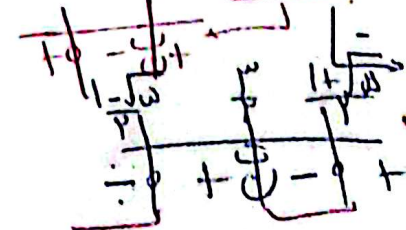
$$2f(x) - 3$$



$$Dg \rightarrow [-5/2, 3/2]$$

$$Rg \cdot [0, \sqrt{5}]$$

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



$$\frac{x^2 - x - 1}{2x - 3}$$

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

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

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

$$(-\infty, 1] \cup [\sqrt{2}, \infty)$$