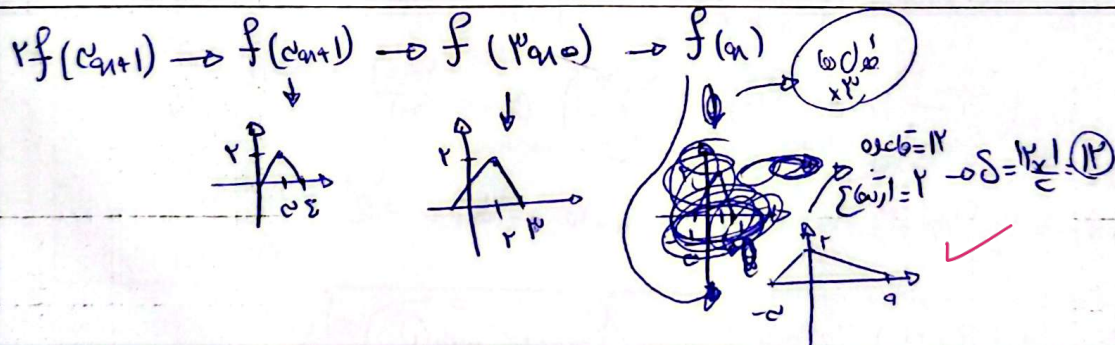


• $f(0) = 0 \Rightarrow 0 \in [-2, 2]$
 $\rightarrow f(x_1 - 2) = 3x_1 - 2 \in [-2, 2]$
 $\rightarrow 3x_1 \in [-2, 4] \Rightarrow x_1 \in \left[-\frac{2}{3}, \frac{4}{3}\right] = D_f$

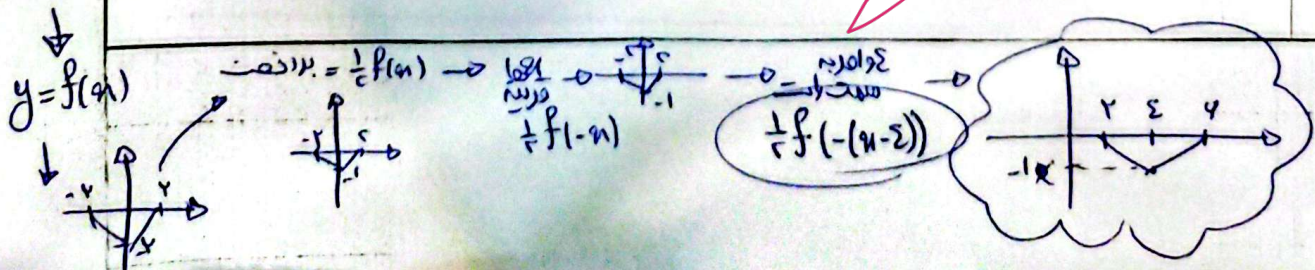
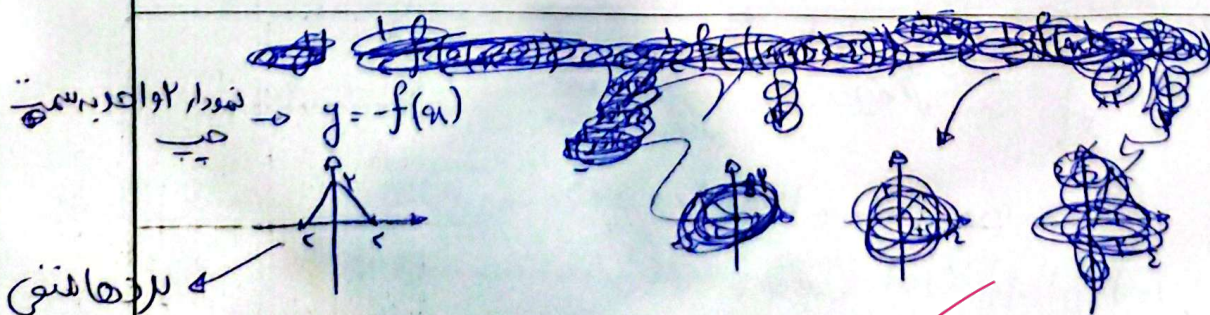
$x \in [-2, 2] \Rightarrow 3x \in [-6, 6]$
 $\rightarrow 3x - 2 \in [-8, 4]$
 $\rightarrow D_f = [-2, 2]$

معکوس $\rightarrow x_1 - 2 + \sqrt{(x_1 - 2) - 2} = x_1 - 2 + \sqrt{x_1 - 4} \Rightarrow x_1 = y - 2 + \sqrt{x_1 - 4}$

چون معکوس تابع با خود تابع در خط $y = x$ برابر است پس ما
 می‌توانیم از معکوس تابع استفاده کنیم
 (فرض ندارد واقعاً)
 $\rightarrow x_1 - 2 + \sqrt{x_1 - 4} = x_1$
 $\rightarrow \sqrt{x_1 - 4} = 2 \Rightarrow x_1 = 8 \Rightarrow y = 1$

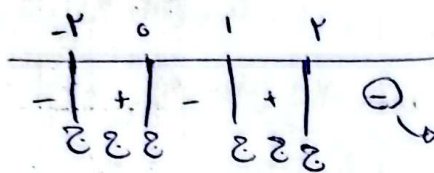


~~.....~~ $A' \rightarrow \frac{y-a}{2} = f\left(\frac{x-a}{2}\right)$
 $\frac{y-a}{2} = -3 \Rightarrow y = a - 6$, $\frac{x-a}{2} = 2 \Rightarrow x = a + 4$
 $\rightarrow (a - 6) = (2(a + 4)) - 1$
 $\rightarrow a - 6 = 2a - 7 \Rightarrow a = -1$



$$\omega \rightarrow y=0 \rightarrow 3x-1=0 \rightarrow x=\frac{1}{3}$$

$$\sqrt{x} \rightarrow x \geq 0$$



$$D_f = [-1, 0] \cup [1, 2]$$

$$g(n) = |2n+k-3| - 2 \rightarrow f(0) = 2$$

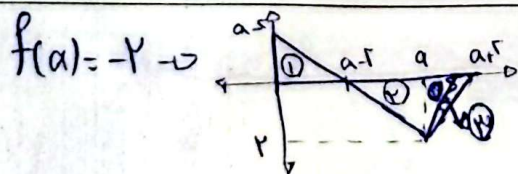
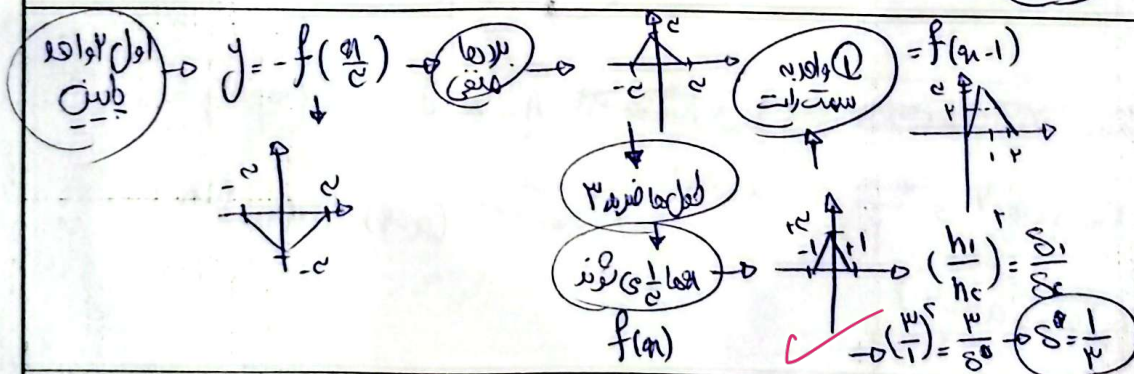
$$-g(0) = 2 \rightarrow |k-3| - 2 = 2 \rightarrow |k-3| = 4 \rightarrow k = 7 \text{ or } -1 \star k > 0 \star$$

$$\checkmark \rightarrow k = 7$$

$$f(n) = -\left(\frac{2n-1}{n+1}\right) \rightarrow \text{طول قاع} \rightarrow \text{نقطه} \rightarrow \frac{1}{2}$$

$$\rightarrow f(n) = -\left(\frac{\frac{1}{2}n-1}{\frac{1}{2}n+1}\right) \sim f(n) = -\left(\frac{2n-2}{n+2}\right) + a \rightarrow \frac{2n-1}{n+1} = \frac{2n-2}{n+2} + a$$

$$2n^2 - 2n + 2 = 2n^2 + 4n + 2 + a(n+2) - 2n - 2 \rightarrow \sum a_n = 0 \rightarrow -a = 2$$



$$\delta_1 + \delta_2 = 2x \left(\frac{1}{c}\right) = 1$$

$$\rightarrow \delta_1 = \frac{1}{c} = \frac{1}{2} \rightarrow z = 1 \rightarrow f(1) = 0 \rightarrow |1-a| - 2 = 0 \rightarrow a = 3$$

$$\rightarrow f\left(\frac{1}{a}\right) = f\left(\frac{1}{3}\right) = \left|\frac{1}{3} - 3\right| - 2 = \frac{8}{3} - 2 = \frac{2}{3}$$