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

حالت اول: $x=0 \rightarrow y = \frac{1}{2}$

حالت دوم: $y=0 \rightarrow x = -\frac{1}{2}$

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$

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دایره تابع کوسین برآید

برای تابع $y = \cos(x)$ داریم $D_f^{-1} = [2, 0] = [2, 0]$

$y = \cos(x) \rightarrow x = \arccos(y)$

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$f(x) = 2x - \sqrt{4(x-2)^2} = 2x - |2x-4|$

$y = 2x - 4 \rightarrow \frac{y+4}{2} = x \rightarrow y = 2x - 4$

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$g(x) = \frac{x}{\sqrt{x-5}}$

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$y = \begin{cases} (x-2)^2 - 4 + k & x > 2 \\ (x-2)^2 + 4 + 3k & x < 2 \end{cases}$

$-13 \geq k$

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$$f = \begin{cases} fu & u \in \mathbb{N} \\ vu & u \in \mathbb{N} \end{cases} \rightarrow \text{such that } y = \frac{1}{2}u \quad u \in \mathbb{N} \\ y = \frac{1}{2}u \quad u \in \mathbb{N}$$

$$\frac{1}{2}u + \frac{1}{2}u = \frac{1+1}{2}u = \frac{2}{2}u = 1u = u \rightarrow \frac{1}{2}u + \frac{1}{2}u = u$$

$$\frac{1}{2}u - \frac{1}{2}u = \frac{1-1}{2}u = \frac{0}{2}u = 0 \rightarrow y = \frac{1}{2}u - \frac{1}{2}u \quad (\text{such as } -\frac{1}{2}u)$$

$$f(x) = -x \rightarrow \frac{1}{x+m} = -x \rightarrow x+m = -1 \Rightarrow m = -x-1 \quad f \circ f^{-1}(u) = u$$

$$f(u) = \frac{u+1}{u-1} \Rightarrow f^{-1}(u) = \frac{u+1}{u-1} \Rightarrow \frac{u+1}{u-1} + u = u$$

$$\frac{u+1}{u-1} = -u \Rightarrow u+1 = -u(u-1) \Rightarrow u+1 = -u^2+u \Rightarrow u^2 = 0 \Rightarrow u = 0$$

$$f(u) = \frac{u+1}{u-1} \rightarrow \text{such as } y = \frac{u+1}{u-1} \rightarrow \frac{u+1}{u-1} = \frac{u+1}{u-1} \rightarrow \frac{u+1}{u-1} = \frac{u+1}{u-1}$$

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$$f(g(y)) = y \quad f(u) \in \mathbb{N} \rightarrow y = (u-1) + 1 \quad (u-1, u+1)$$

$$u = y - (u-1) \quad g(u) = u - (u-1) \rightarrow g(u) = u - (u-1) = 1$$

$$f \circ g(u) = u + 1 \quad u + 1 = u + 1$$

$$f\left(u + \frac{1}{2}\right)$$