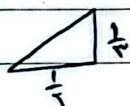
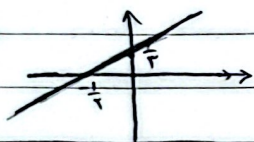


$$ry = 2n - 1 \rightarrow ry + 1 = 2n \Rightarrow n = \frac{ry + 1}{2}$$

$$f(n) = \frac{1}{2} \left(\frac{ry + 1}{2} + \frac{ry + 1}{2} \right) = \frac{ry + 1}{2}$$



$$\frac{1}{2} \times \frac{1}{r} = \frac{1}{2r} = S$$

$$y = n^2 - 2n + 2 \xrightarrow{\text{دو طرفه}} y - 2 = n^2 - 2n + 1$$

$$\Rightarrow y - 2 = (n - 1)^2 \rightarrow \sqrt{y - 2} = |n - 1| \rightarrow \sqrt{y - 2} = n - 1$$

$$n = \sqrt{y - 2} + 1$$

$$y \geq \sqrt{n - 2} + 1$$

$$n \in [2, +\infty)$$



$$y = n^2 - 2n + 2 \quad n \in [2, +\infty)$$

به ازای این n به یک به یک هست

$$y = n^2 - 2n + 2 \xrightarrow{\text{دو طرفه}} y - 2 = n^2 - 2n + 1$$

$$\Rightarrow y - 2 = (n - 1)^2 \rightarrow \sqrt{y - 2} = n - 1$$

$$\Rightarrow n = \sqrt{y - 2} + 1$$

$$\Rightarrow y \geq \sqrt{n - 2} + 1 \quad n \in [2, +\infty)$$

به ازای این n به یک به یک هست

$$f(n) = \begin{cases} \epsilon n & n > 0 \\ 0 & n = 0 \\ \epsilon n & n < 0 \end{cases}$$

$n > 0$

$n = 0$

$n < 0$

و دایره

$$\begin{cases} \frac{1}{2}n & n > 0 \\ 0 & n = 0 \\ \frac{1}{2}n & n < 0 \end{cases}$$

$n > 0$

$n = 0$

$n < 0$

$$\Rightarrow an + bn \leq \frac{1}{2}n$$

$$an - bn \leq \frac{1}{2}n$$

$$\begin{aligned} a + b &= \frac{1}{2} \\ a - b &= \frac{1}{2} \end{aligned}$$

$$\Rightarrow 2a = \frac{1}{2} \Rightarrow a = \frac{1}{4}$$

$$\Rightarrow a = \frac{1}{4}$$

$$b = -\frac{1}{4}$$

$$ab \leq \frac{1}{16}$$

$$\frac{an + bn}{an - bn} \rightarrow \frac{(a + b)(n)}{(a - b)(n)} = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

$$(a - b)(n) \leq \frac{1}{2}n$$