

تکلیف 1

سایه‌های دایره در دایره B

$$y^2, 2n^2 + 1 \Rightarrow \begin{cases} y_1^2 = 2n^2 + 1 \\ y_2^2 = 2n^2 + 1 \end{cases} \quad y_1^2, y_2^2 \Rightarrow y_1, y_2 \quad (1) \text{ انت} \\ \text{تابع} \quad \text{ب.}$$

$$n \cdot \frac{\pi}{2} \Rightarrow \frac{\pi}{2} \cos y + y \cos \frac{\pi}{2} \Rightarrow \frac{\pi}{2} \cos y \Rightarrow y = \pm \frac{\pi}{2} \quad \text{تابع} \times$$

$$n + y \pm \sqrt{ny} \Rightarrow n - 2\sqrt{ny} + y \Rightarrow (\sqrt{n} - \sqrt{y})^2 = 0 \quad (2) \text{ انت}$$

$$\sqrt{n} = \sqrt{y} \Rightarrow n = y \Rightarrow n \pm y \Rightarrow y = n \quad \text{تابع} \checkmark$$

$$y^2(n-y) + 2(n-y) \Rightarrow (n-y)(y^2 + 2) \Rightarrow \underbrace{(y^2 + 2)}_{\text{دایره}} \Rightarrow n-y \Rightarrow n=y \quad (3) \text{ تابع} \checkmark$$

$$\begin{aligned} & \text{انت} \quad |y| + n^2 \pm y \rightarrow y - |y| \pm n^2 \\ & y < 0 \quad \left\{ \begin{array}{l} \text{عقبات} \\ y \geq 0 \Rightarrow n^2 \pm y \end{array} \right. \quad \text{تابع} \checkmark \\ & \text{ب.} \quad \xrightarrow{n \pm} [y] \pm 1 \Rightarrow y \pm 1, \dots \quad \text{تابع} \times \end{aligned} \quad (4)$$

$$\begin{aligned} & |n-1| \geq 2 \Rightarrow n \leq -1 \quad | \quad n \geq 3 \quad \Rightarrow f(n) = 2(n)^2 - 1, 1, n-b \\ & 1, n-b = a \pm b \Rightarrow a \pm b = 1, 2 \quad f(n), n \pm 2(n) \Rightarrow a \pm b \end{aligned} \quad (5)$$

$$\sqrt{-(x^2+bx-a)} \Rightarrow \begin{array}{c} a \quad b \\ + \quad - \quad + \end{array} \Rightarrow -a=ab \Rightarrow b=-1$$

$$\left. \begin{array}{l} a+(-1) \cdot (-1)=1 \Rightarrow 1=a-1 \Rightarrow a=2 \end{array} \right\} \text{P-1-1}$$

as.

$$x^2 \rightarrow y^2 + c \Rightarrow c = -y^2$$

$$y^2(1+y-2|b|) = -y^2 + 2y^2b \Rightarrow \boxed{b}$$

$$\frac{y^2+x^2}{x+b} + a = \frac{y^2+x^2+ax+ab}{x+b} = \frac{x(y^2+a)+y^2+ab}{x+b} \rightarrow y^2+a = \dots$$

$$\Rightarrow a = y^2$$

$$\frac{x+b}{x+b} \cdot y^2 = y^2 \Rightarrow b = -y^2$$

$$\text{a) } x(x^2-1) \Rightarrow \frac{-1 \ 0 \ 1}{-1 \ 1 \ -1} \Rightarrow [-1, 0] \cup [1, +\infty)$$

$$\text{b) } |x| < 1 \Rightarrow |x| > 1 \Rightarrow x > 1, x < -1 \Rightarrow (-\infty, -1) \cup (1, +\infty)$$

$$\text{c) } |n| - [n] \neq \dots \Rightarrow |n| = [n] \Rightarrow \mathbb{Z}^+ \cup \{0\}$$

$$\Rightarrow \sqrt{y} = 9 - \sqrt{x} \Rightarrow \sqrt{x} \geq 0 \Rightarrow 9 - \sqrt{x} \geq 0 \Rightarrow \sqrt{x} \leq 9 \Rightarrow x \leq 81 \Rightarrow \{x \leq 81\} \cap D = [0, 81]$$

$$2n - \frac{1}{T} = T \Rightarrow 2n + \frac{1}{T} = T + T \Rightarrow [T] + [T] + 1 > \dots$$

$$\Rightarrow 2[T] > -1 \Rightarrow [T] > -1 \Rightarrow T \geq 0 \Rightarrow 2n - \frac{1}{T} \geq 0 \Rightarrow \boxed{n \geq \frac{1}{2}}$$

$$\begin{array}{l}
 r_{n-a} > 1 \Rightarrow n > \frac{a}{r} \\
 1 - \log(r_{n-a}) \geq 1 \Rightarrow 1 \geq r_{n-a} \Rightarrow a + \frac{a}{r} \geq n
 \end{array}
 \left.
 \begin{array}{l}
 b \leq \frac{a}{r} \\
 c = a - \frac{a}{r}
 \end{array}
 \right\}
 \begin{array}{l}
 c - b = a + \frac{a}{r} - \frac{a}{r} \\
 = 0
 \end{array}
 \quad \textcircled{1}$$