

۱۹, ۵

تکلیف ۱

سایه‌های دایره در دایره B

$$y^2, r^2 + r^2 - 1 \Rightarrow \begin{cases} y_1^2 = r^2 + r^2 - 1 \\ y_r^2 = r^2 + r^2 - 1 \end{cases} \quad y_1^2, y_r^2 \Rightarrow y_1, y_r \quad (1) \quad \text{تابع}$$

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

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

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

$$y^2(n-y) + 2(n-y) \Rightarrow (n-y)(y^2 + 2) \Rightarrow n-y = 0 \Rightarrow y = n \quad \text{تابع}$$

$$|y| + n^2 \pm y \rightarrow y - |y| \pm n^2 \quad \text{افق!} \quad (2) \quad \text{تابع}$$

$$[y] \pm 1 \Rightarrow y \pm 1, \dots \quad \text{تابع}$$

$$|n-1| \geq 2 \Rightarrow n \leq -1 \quad | \quad n \geq 3 \quad \text{تابع}$$

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

$$a+bx \cdot b=1 \Rightarrow 1=a-1 \Rightarrow a=2 \checkmark$$

(r) (f)
r-1=1 ✓

as ✓

$$x^2 \rightarrow ybx \Rightarrow C = -rb \checkmark$$

$$r(C \cdot 1) + y - r|b| = -yb + rb = \overline{b} \checkmark$$

$$\frac{r_{n+r}}{n+b} + a = \frac{r_{n+r} + an + ab}{n+b} = \frac{x(r+a) + y + ab}{n+b} \rightarrow r+a = \dots$$

(r) (f)
 $\Rightarrow a = r \checkmark$

$$\frac{x+b}{r+b} \rightarrow r+b = \dots \Rightarrow b = -r \checkmark$$

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

(r) (v)

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

$$c) |x| = [x] \neq \dots \Rightarrow |x| = [x] \Rightarrow \mathbb{Z}^+ \cup \{0\} \quad D_f = \mathbb{R} - \underbrace{\{x^+ \cup \{0\}\}}_{\text{iw}} \quad (1)$$

(r) (v)

$$\Rightarrow \sqrt{y} = 9 - \sqrt{x} \quad \left. \begin{array}{l} x \geq 0 \\ 9 - \sqrt{x} \geq 0 \end{array} \right\} \Rightarrow \sqrt{x} \leq 9 \Rightarrow x \leq 81 \Rightarrow \{x \leq 81\} \quad D = [0, 81] \checkmark$$

$$2x - \frac{1}{x} = 4 \Rightarrow 2x + \frac{1}{x} \leq 4 + 2 \Rightarrow [4] + [4] + 2 \dots$$

$$\Rightarrow 2[4] > 4 \Rightarrow [4] > 2 \Rightarrow 7 \dots \Rightarrow 2x - \frac{1}{x} \geq \dots \Rightarrow \boxed{x \geq \frac{1}{2}} \quad \left[\frac{1}{2}, +\infty \right)$$

(r) (v)

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

(r) ①

② ✓