

۱۹, ۵

$$y^r = r u^r = r u - 1 \rightarrow y^r = r u^r + r u - 1 \rightarrow y^r = r u^r + r u - 1 \rightarrow y^r = r u^r + r u - 1 \rightarrow y^r = r u^r + r u - 1$$

$$b = r \cos y = y \cos u \rightarrow \frac{u}{y} = \frac{r}{y} \rightarrow \frac{r}{y} \cos y = y \cos \frac{r}{y} \rightarrow y = \frac{r}{y} \cos y = y \cos \frac{r}{y} \rightarrow y = \frac{r}{y} \cos y = y \cos \frac{r}{y}$$

$$f(u) = \begin{cases} r u^r - b & |u-1| \geq r \\ a + r u & |u-1| < r \end{cases} \rightarrow |u-1| \geq r \rightarrow u-1 \geq r \rightarrow u \geq 1+r \rightarrow u \geq 1+r \rightarrow u \geq 1+r$$

$$f(u) = \sqrt{a - b u - u^r} \rightarrow S = -b \rightarrow a + b S - b \rightarrow a S - r b, P = -a \leq a \times b$$

$$y = \frac{r}{\sqrt{a x^2 + b x + c}} \rightarrow r a - c - 3 |b| \rightarrow \frac{r}{+ \frac{1}{2}} \rightarrow a S. \rightarrow r b + c = 0 \rightarrow c = -r b \rightarrow (3 \times 0) - r b + 3 b = b$$

$$y = \sqrt{\frac{r u + r + a u + a b}{u + b}} \rightarrow u + b = 0 \rightarrow r + b S \rightarrow \sqrt{b c - r}$$

$$y = \sqrt{u^r - u} = \sqrt{u(u+1)(u-1)} \rightarrow \frac{-1}{-1} + \frac{0}{0} + \frac{+1}{+1} \rightarrow P_f, [-1, 0] \cup [1, +\infty)$$

$$y = \frac{1}{\sqrt{|u-1|}} \rightarrow |u-1| > 0 \rightarrow |u| > 1 \rightarrow u > 1 \leq u < -1 \rightarrow P_f, (-\infty, -1) \cup (1, +\infty)$$

$$y = \sqrt{\frac{1}{|x| - [u]}} \rightarrow |x| \neq [u] \rightarrow D_f = R - [\underbrace{z^+ u\{0\}}_{w}] \checkmark$$

$$\sqrt{x} + \sqrt{y} = 9 \rightarrow \sqrt{y} = 9 - \sqrt{x} \rightarrow x \geq 0 \rightarrow D_f = [\cancel{0}, 81]$$

$$y = \frac{1}{\sqrt{[x - \frac{1}{r}] + [x + \frac{1}{r}]}} \xrightarrow{\frac{1}{r} = k \rightarrow \frac{1}{r}} r[x - \frac{1}{r}] + r > 0 \rightarrow [x - \frac{1}{r}] > -r$$

$$[x - \frac{1}{r}] > -1 \rightarrow x - \frac{1}{r} \geq 0 \rightarrow x \geq \frac{1}{r} \quad \boxed{x \geq \frac{1}{r}} \checkmark$$

$$y = \sqrt{1 - \log x - a} \rightarrow x - a > 0 \rightarrow x > \frac{a}{r} \text{ (I)} \rightarrow b$$

$$1 - \log x - a \geq 0 \rightarrow \log x - a \leq 1 \rightarrow x - a \leq 1 \rightarrow x \leq 1 + a \rightarrow x \leq \frac{1+a}{r} = \frac{a+a}{r}$$

$$C - b = \frac{a}{r} + \frac{a}{r} - \frac{a}{r} = \boxed{\frac{a}{r}} \checkmark$$

ادامه سوال بعد

$$ج: \frac{x+y}{r} \sqrt{xy} \rightarrow x+y, r\sqrt{xy} \rightarrow x+y - r\sqrt{xy} = 0 \rightarrow (\sqrt{x} - \sqrt{y})^2 = 0$$

$$\rightarrow \sqrt{x} - \sqrt{y} = 0 \rightarrow \sqrt{x} = \sqrt{y} \xrightarrow{r\sqrt{xy}} x, y \rightarrow \checkmark$$

$$x^r y^r + x^r - y^r - r y = 0 \rightarrow x(y^r + r), y^r + r y \rightarrow x, \frac{y^r + r y}{y^r + r} \rightarrow \frac{y^r + r y}{y^r + r} \rightarrow \frac{y^r + r y}{y^r + r}$$

$$y^r y^r + r y_1 y^r + r y_1^r + r y_1 = y_1^r y_1^r + r y_1 y_1^r + r y_1^r + r y_1 \rightarrow y_1 = y_1$$

-1

$$\text{ب. } \sqrt{x} + \sqrt{y} = 9 \rightarrow \begin{cases} x \geq 0 \\ \sqrt{y} = 9 - \sqrt{x} \end{cases} \xrightarrow{y \geq 0} 0 \leq x \leq 81 \xrightarrow{\cap} [0, 81]$$