

1. مقدار

2. مقدار

3. مقدار

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ا) $y^r - r_2^r = r_2 - 1$

①

$y_1^r = r_2^r + r_2 - 1$

$y_r^r = r_2^r + r_{n-1} + 1$

$y_1^r = y_r^r \rightarrow y_1 = y_r$ ✓ مستخرج

(r)

$\Rightarrow n \cos y = y \cos n$

$y = \frac{\pi}{r} \Rightarrow n \cos \frac{\pi}{r} = \frac{\pi}{r} \cos n$

$0 = \frac{\pi}{r} \cos n \rightarrow n = \frac{\pi}{r}, \frac{2\pi}{r}, \frac{3\pi}{r}, \dots$

← مستخرج

✓ مستخرج

2. $\frac{n+y}{r} = \sqrt{ny}$, $n, y > 0$

$n+y = r \sqrt{ny}$

$n+y - r \sqrt{ny} = 0$

$(\sqrt{n} - \sqrt{y})^2 = 0 \rightarrow \sqrt{n} = \sqrt{y}$

$\sqrt{n} = \sqrt{y} \rightarrow |n| = |y| \rightarrow y_1 = y_2$

← مستخرج

3) $n y^r + r_2 - y^r - r_2 y = 0$

$n(y^r + 1) - y^r - r_2 y = 0$

$n(y^r + 1) = y^r + r_2 y \rightarrow n = \frac{y^r + r_2 y}{y^r + 1} = \frac{y(y^r + r_2)}{y^r + 1} = y - r_2 y$ ✓ مستخرج

مستخرج

4) $|n| + n^2 = r_2 y$

②

مستخرج $n^2 = r_2 y - |n|$

$y_1: n^2 = y \rightarrow$ مستخرج ✓

$y_2: n^2 = \frac{r_2 y}{r_2} = y$ مستخرج ✓

(r)

5) $[y] + [n] = 1$ مستخرج

$\Rightarrow |n y^r|$

✓ مستخرج

$f(n) = \begin{cases} r_2^r - b & |n-1| \geq r_2 \Rightarrow r_2^r - b \\ a + r_2 & |n-1| < r_2 \Rightarrow r_2^r + a \end{cases}$

$a + b = ?$

③

$n = r_2 \Rightarrow a - b = r_2 + a - a + b = 1$ ✓

$a + r_2 = r_2^r + a$ (r)

$|r_2^r - b| = 1$ مستخرج

$f(n) = \sqrt{a - b n^2} - D_f = [b, a] \quad b \in \mathbb{Z}, a \neq 0$ ④

$-n^2 - b n + a > 0 \rightarrow n^2 + b n - a < 0 \rightarrow (n-a)(n-b) = n^2 - (a+b)n + ab = 0$

Arman

$a+b = r_2 - 1 = 1$ ✓

$-x = a b \quad b = -1 \Rightarrow a = -r_2 b = -r_2(-1) = r_2$

(r)

$$y = \frac{y}{\sqrt{ax^2 + bx + c}}$$

$$D_f = (-\infty, 1)$$

$$x+c - x/b = ? \quad (a) \quad b \text{ negativ}$$

$$ax^2 + bx + c > 0$$

$$a=0 \rightarrow bx+c > 0 \rightarrow b(x+\frac{c}{b}) = bx - xb \rightarrow c = -xb$$

$$x+c - x/b = 0 \rightarrow -xb + xb = b$$

$$y = \sqrt{\frac{x^2+x}{x+b}} + x$$

$$D_f = (x, +\infty)$$

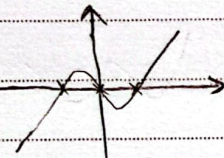
$$\frac{y}{-x} +$$

$$\frac{x^2+x}{x+b} + x > 0 \rightarrow \frac{x^2+x+a(x+b)}{x+b} > 0 \rightarrow \frac{x^2+x+a(x+b)}{x+b} > 0 \rightarrow x+b=0 \rightarrow b=-x$$

$$\text{all } y = \sqrt{x^2-x}$$

$$x^2-x > 0$$

$$x(x-1) > 0 \rightarrow x(x+1)(x-1) > 0$$



$$D_f = [-1, 0] \cup [1, +\infty)$$

$$y = \frac{1}{\sqrt{|x|-1}}$$

$$|x|-1 > 0 \rightarrow |x| > 1 \rightarrow \begin{cases} x > 1 \\ x < -1 \end{cases}$$

$$D_f = (-\infty, -1) \cup (1, +\infty)$$

$$D_f = \mathbb{R} - [-1, 1]$$

$$y = \sqrt{\frac{1}{|x|-[a]}}$$

$$|x|-[a] \neq 0$$

$$|x| \neq [a]$$

$$\Rightarrow D_f = \mathbb{R} - \{a\}$$

$$\rightarrow x \neq a$$

$$y = \sqrt{x} + \sqrt{y} = 9$$

$$\sqrt{y} = 9 - \sqrt{x}$$

$$x > 0$$

$$9 - \sqrt{x} \geq 0 \rightarrow 9 \geq \sqrt{x} \rightarrow x \leq 81$$

$$D_f = [0, 81]$$

$$y = \frac{1}{\sqrt{[x-\frac{1}{r}] + [x+\frac{r}{r}]}}$$

$$[x-\frac{1}{r}] + [x+\frac{r}{r}] + x - x > 0$$

$$[x+\frac{r}{r}] + [x+\frac{r}{r}] + x > 0 \rightarrow x[x+\frac{r}{r}] > 0$$

$$\rightarrow [x+\frac{r}{r}] > 0 \rightarrow x+\frac{r}{r} \geq x-\frac{1}{r} \geq \frac{1}{r} \rightarrow x \geq \frac{1}{r}$$

$$D_f = [\frac{1}{r}, +\infty)$$

$$y = \sqrt{1 - \log(x-a)}$$

$$D_f = (b, c]$$

$$x-a > 0 \rightarrow x > a \rightarrow x > \frac{a}{r}$$

$$\frac{a}{r} < x \leq \frac{1+\frac{a}{r}}{r}$$

$$1 - \log(x-a) > 0 \rightarrow -1 > \log(x-a) \rightarrow 1 > x-a \rightarrow \frac{1+a}{r} > x$$

$$c-b = \frac{1+a}{r} - \frac{a}{r} = \frac{1}{r} = \frac{1}{r}$$