

$$\frac{n+3}{2n^2+3n^2-1n+5 \div n-1} \rightarrow \frac{n+3}{2n^2+5n-3} = \frac{n+3}{(n-\frac{1}{2})(n+\frac{6}{1})} \rightarrow \mathbb{R} - \left\{1, \frac{1}{2}, -3\right\}$$

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$$\frac{n+3}{2n^2+9n^2+10n+3} \rightarrow \frac{n+3}{(n+3)(2n^2+3n+1)} = \frac{n+3}{2n^2+3n+1} = \frac{n+3}{(2n+1)(n+1)(n+3)} \Rightarrow \mathbb{R} - \left\{-\frac{1}{2}, -1, -3\right\}$$

سوال دو

$$\frac{n+3}{n^2-2n^2+2n-1} \rightarrow (n^2-2n^2) + (2n-1) = n^2(n-2) + 1(2n-1) \rightarrow (n-1)(n^2-n+1)$$

$$\Delta = b^2 - 4ac \rightarrow (-1)^2 - 4(1)(1) = -3 < 0$$

ریشه حقیقی ندارد

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پس

$$\mathbb{R} - \{1\}$$

$$\sqrt{\frac{n+3}{n^2-2n^2+2n-1}} \rightarrow \frac{n+3}{n^2-2n^2+2n-1} \rightarrow \frac{(n-1)(n^2-n+1)}{n^2-2n^2+2n-1}$$

مخرج

$$\Delta < 0$$

$$n-1 < 0 \rightarrow n < 1$$

$$n-1 > 0 \rightarrow n > 1$$

$$D = (-\infty, -3] \cup (1, +\infty)$$

$$n+3 \geq 0 \rightarrow n \geq -3$$

سوال سه

$$\frac{2}{n^2-\Delta(n-1)-2n+d} \rightarrow |n-1| = n-1 \rightarrow n^2-2n+d-2n+d = n^2-4n+2d \neq 0$$

$$n \geq 1 \rightarrow \frac{n = \frac{4 \pm \sqrt{16-4(1)(2d)}}{2} = \frac{4 \pm \sqrt{16-8d}}{2} = \frac{4 \pm 2\sqrt{4-2d}}{2} = 2 \pm \sqrt{4-2d}$$

$$n < 1 \rightarrow |n-1| = -(n-1) = -n+1 \rightarrow n^2+d-2n+d = n^2-2n+2d$$

$$n^2-2n \neq 0 \rightarrow n(n-2) \neq 0 \xrightarrow{0 \neq} n \neq 0, 2$$

$$D = \mathbb{R} - \{-3, 0, 2, d\}$$

سوال چهارم

$$\frac{n+3}{|2n+1|-|n+3|} \rightarrow |2n+1|-|n+3| = |2n+1| = |n+3| \rightarrow 2n+1 = n+3 = n=2$$

$$D = \mathbb{R} - \left\{+3, -\frac{5}{2}\right\}$$

$$2n+1 = -n-3 \rightarrow 3n = -4 \rightarrow n = -\frac{4}{3}$$

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$$\sqrt{|2n+1|-|n+3|} < |2n+1|-|n+3| \geq 0 \rightarrow 2n+1 \geq n+3 \rightarrow 2n+1=0 \rightarrow n = -\frac{1}{2}$$

$$n < -3 \rightarrow -2n-1+n+3 = -n+2 \rightarrow n \leq 2$$

$$-3 \leq n < -\frac{1}{2} \rightarrow -2n-1-n-3 = -3n-4 \rightarrow n \leq -\frac{4}{3} \rightarrow -3 \leq n \leq -\frac{4}{3}$$

$$n \geq -\frac{1}{2} \rightarrow 2n+1-n-3 = n-2 \rightarrow n \geq 2 \rightarrow [2, +\infty) \quad D = (-\infty, -\frac{4}{3}] \cup [2, +\infty)$$

الف $\log_r(1 - \log_r^n)$

(د) $n > 0 \rightarrow 1 - \log_r^n > 0 \rightarrow 1 > \log_r^n \rightarrow n < r \rightarrow n < r$ دیکھا دے جینی

$D = (0, r)$

✓

(1, 0)

ب $\log_r(1 - \log_{\frac{1}{r}}^n)$

$n > 0 \rightarrow 1 - \log_{\frac{1}{r}}^n > 0 \rightarrow 1 > \log_{\frac{1}{r}}^n \rightarrow n < \frac{1}{r} \rightarrow n < \frac{1}{r}$

$D = (0, \frac{1}{r})$

Def. ($\frac{1}{r}, +\infty$)

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$$f(n) = \sqrt{\log_{1/d} \log_d (r_{n-1})}$$

$$\log_{1/d} (\log_d (r_{n-1})) \geq 0$$

$$\log_d r_{n-1} > 0 \rightarrow r_{n-1} > 1 \rightarrow \boxed{n > 1}$$

$$\log_{1/d} (y) \geq 0 \rightarrow y = \log_d (r_{n-1}) \checkmark \rightarrow y \leq 1$$

$$\log_d (r_{n-1}) \leq 1 \rightarrow \log_d (r_{n-1}) \leq 1 \rightarrow r_{n-1} \leq d \rightarrow r_n \leq 4 \rightarrow \boxed{n \leq 3}$$

$$1 < n \leq 3 \rightarrow D = \{1, 3\}$$

فلیک محمد حسینی



$\log(r \cos n + 1) \rightarrow r \cos n + 1 = 0 \rightarrow r \cos n = -1 \rightarrow \cos n = -\frac{1}{r}$

$\{n \in \mathbb{R} \mid \cos n > -\frac{1}{r}\} \cap \mathbb{R}^+ = \left\{k\pi + \frac{\pi}{r}, 2k\pi + \frac{\pi}{r}\right\}$

مدیکه حسینی ✓
 انت ✓
 ۱، ۷۵

$\sqrt{1.9 \frac{n-1}{n+1}}$

$\frac{n-1}{n+1} > 0 \rightarrow \frac{n-1}{n+1} > 1 \rightarrow \frac{n-1}{n+1} - 1 = \frac{-2}{n+1} > 0 \rightarrow n+1 < 0 \rightarrow n < -1$

$n < -1 \rightarrow D_2(-\infty, -1)$

$f(n) = \sqrt{(a+r)n^r + an + b} \rightarrow (a+r)n^r + an + b \geq 0$

$a+r > 0$
 $a+r < 0$

فرض $r=2$
 چون تابع با n تغییر نمی کند
 می باید در $n=3$ اقل باشد

$a+r=0 \rightarrow a=r$

$a=3 \rightarrow -4+b = b=4$

$n_1 + r = -\frac{a}{a+r} \rightarrow n_1 = -\frac{a}{a+r} - r$

$n_1 n_r = n_1 \times r = \frac{b}{a+r} \rightarrow b = r(a+r)n_1$

$b = r(a+r)\left(-\frac{a}{a+r} - r\right) = r(a+r)\left(-\frac{a}{a+r} - r\right)$

$b = r(-a - r(a+r)) \rightarrow -3a - 9a - 18 = -12a - 18$

$f(n) = \sqrt{n^r + rn + r - m^r} \quad D = \mathbb{R}$

$n^r + rn + r - m^r \geq 0$

$n^r + rn + r - m^r = n^r + rn + (r - m^r) \rightarrow \Delta = (r)^2 - 4(1)(r - m^r) = r^2 - 4r + 4m^r = (r-2)^2 - 4 + 4m^r = (r-2)^2 - 4 + 4m^r$

$\Delta \leq 0 \rightarrow (r-2)^2 - 4 + 4m^r \leq 0 \rightarrow 4m^r \leq 4 - (r-2)^2 \leq 4 \rightarrow -1 \leq m \leq 1$

$+1+1 = +2$

بیشترین مقدار $m = 1$ و کمترین مقدار $m = -1$

$f(n) = \frac{\sqrt{4 - n^2}}{[n] + [-n] + 1} \rightarrow 4 - n^2 \geq 0 \rightarrow 4 \geq n^2 \rightarrow -2 \leq n \leq 2$

$[n] + [-n] + 1 \rightarrow n + (-n) + 1 = 1 \neq 0$

$\{-2, -1, 0, 1, 2\}$

هم این که عدد صحیح دانسته می شود