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لا دهس

1

$$y = \frac{n+2}{(n-1)(2n^2+5n-2)} = \frac{n+2}{2(n-1)(n+\frac{7}{2})(n-\frac{1}{2})} \Rightarrow D \in \mathbb{R} - \{1, -2, \frac{1}{2}\} \checkmark$$

(الف)

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$$y = \frac{n+2}{(n+1)(2n^2+7n+2)} = \frac{n+2}{2(n+1)(n+\frac{7}{2})(n+\frac{1}{2})} \Rightarrow D \in \mathbb{R} - \{-1, -2, -\frac{1}{2}\} \checkmark$$

(الف)

3

$$y = \frac{n+2}{n^2-2n^2+2n-1} = \frac{n+2}{(n-1)(n^2-2n+1)} \Rightarrow D = \mathbb{R} - \{1\} \checkmark$$

(الف)

$\Delta < 0 \Rightarrow$ ~~سواء~~

4

$$y = \sqrt{\frac{n+2}{(n-1)(n^2+n+1)}} + \frac{-2}{1} + \frac{1}{1} + \frac{n+2}{(n-1)(n^2+n+1)} \geq 0 \Rightarrow D \in (-\infty, -\frac{2}{3}] \cup (1, +\infty) \checkmark$$

(الف)

$\Delta < 0, a > 0 \Rightarrow$ ~~سواء~~

5

$n^2 - \infty |n-1| - 2n+2 \neq 0$

$\Rightarrow D \in \mathbb{R} - \{-2, 0, 2, \infty\} \checkmark$

$\frac{n^2+2n}{n(n+2)} \mid \frac{n^2-2n+1}{(n-1)(n-2)}$

$\Delta < 0 \Rightarrow$ ~~سواء~~

$n \neq -2$ $n \neq 2$

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$|2n+1| - |n+2| \neq 0 \Rightarrow |2n+1| \neq |n+2| \Rightarrow (2n+1)^2 \neq (n+2)^2 \Rightarrow 4n^2+4n+1 \neq n^2+4n+4$

$\Rightarrow 3n^2-2n-3 \neq 0$ $\Delta = (-2)^2 - 4(-1)(-3) = 1 \Rightarrow n = \frac{2 \pm \sqrt{1}}{2} \Rightarrow n = \frac{1}{2}$

$\Rightarrow 2(n-1)(n+\frac{1}{2}) \neq 0 \Rightarrow D = \mathbb{R} - \{-\frac{1}{2}, 1\} \checkmark$

(الف)

7

$|2n+1| - |n+2| \geq 0 \Rightarrow |2n+1| \geq |n+2| \Rightarrow (2n+1)^2 \geq (n+2)^2 \Rightarrow 4n^2+4n+1 \geq n^2+4n+4$

$\Rightarrow 3n^2-2n-3 \geq 0$ $\Delta = (-2)^2 - 4(-1)(-3) = 1 \Rightarrow n = \frac{2 \pm \sqrt{1}}{2} \Rightarrow n = \frac{1}{2}$

$\Rightarrow D \in (-\infty, -\frac{1}{2}] \cup [1, +\infty) \checkmark$

(الف)

8

$1 - \log_2 n > 0 \Rightarrow \log_2 n < 1 \Rightarrow n < 2$

$n > 0$

$\Rightarrow D \in (0, 2)$

(الف)

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$1 - \log_{\frac{1}{2}} n > 0 \Rightarrow \log_{\frac{1}{2}} n < 1 \Rightarrow n > \frac{1}{2}$

$n > 0$

$\Rightarrow D \in (\frac{1}{2}, +\infty)$

$\log_a b$

$\{a > 0, b > 0, b \neq 1\}$

دقة!

$$\log_a^{(n-1)} > 0 \Rightarrow r_{n-1} > 1 \Rightarrow n > 1 \quad (1)$$

$$r_{n-1} > 0 \Rightarrow n > \frac{1}{r} \quad (2)$$

$$\log_a^{\log_a^{(n-1)}} > 0 \Rightarrow \log_a^{(r_{n-1})} \leq 1 \Rightarrow r_{n-1} \leq a \Rightarrow n \leq 2 \quad (3)$$

$$(1) \cap (2) \cap (3) \Rightarrow D_f \in (1, 2] \quad \checkmark$$

$$r \cos n + 1 > 0 \Rightarrow r \cos n > -1 \Rightarrow \cos n > -\frac{1}{r} \Rightarrow D \in (2k\pi - \frac{\pi}{r}, 2k\pi + \frac{\pi}{r}) \quad \checkmark$$

$$\log \frac{n-1}{n+1} > 0 \Rightarrow \frac{n-1}{n+1} > 1 \Rightarrow 1 - \frac{2}{n+1} > 1 \Rightarrow -\frac{2}{n+1} > 0 \Rightarrow \frac{2}{n+1} < 0 \Rightarrow n+1 < 0 \Rightarrow n < -1 \quad (1)$$

$$\frac{n-1}{n+1} > 0 \Rightarrow \frac{-1}{+} = \frac{-}{+} \quad n \in (-\infty, -1) \cup (1, +\infty) \quad (2) \quad (1) \cap (2) \Rightarrow D \in (-\infty, -1) \quad \checkmark$$

عبارت کلی $\Rightarrow$ عبارت $\Rightarrow a + r = 0 \Rightarrow a = -r \Rightarrow f(n) = \sqrt{-rn + b}$

$$f(2) = 0 \Rightarrow \sqrt{-2(2) + b} = \sqrt{-4 + b} = 0 \Rightarrow b = 4 \quad \checkmark$$

$$\cancel{2(n+1)^2 + 2(n+1) - m^2} \quad n^2 + 2n + 2 - m^2 \geq 0 \Rightarrow n^2 + 2n + 1 + 1 - m^2 \geq 0$$

$$\Rightarrow (n+1)^2 + 1 - m^2 \geq 0 \Rightarrow m^2 \leq (n+1)^2 + 1 \xrightarrow{(n+1)^2 + 1 \geq 2} m^2 \leq 2 \Rightarrow -\sqrt{2} \leq m \leq \sqrt{2}$$

$$\sqrt{2} - (-\sqrt{2}) = \sqrt{2} + \sqrt{2} = 2\sqrt{2}$$

زیر ادیتال باید محطوز + باشد :

$$a > 0$$

$$\Delta \leq 0 \rightarrow -1 \leq m \leq 1 \rightarrow (2) = \text{اختلاف}$$

$$r \cdot n^2 \geq 0 \Rightarrow n^2 \leq r \Rightarrow -2 \leq n \leq 2 \quad (1)$$

$$[n] + [-n] + 1 \neq [n] + [-n] - 1 \Rightarrow n \in \mathbb{Z} \quad (2)$$

$$\text{تکثیرات} \rightarrow n \in \mathbb{Z} \quad (3)$$

$$(1) \cap (2) \cap (3) \Rightarrow n \in \{-2, -1, 0, 1, 2\} \rightarrow \text{معد}$$