

مقدمه الی تحقیق - باز هم بر A - تکلیف شما، سه

$$\begin{array}{r} p_n^2 + \sqrt{n+1}n + 1 \\ - p_n^2 + p_n \\ \hline p_n^2 - \sqrt{n+1}n + 1 \\ - p_n^2 + p_n \\ \hline - p_n + \sqrt{n+1}n + 1 \\ + p_n - \sqrt{n+1}n \\ \hline 1 \end{array}$$

(الف) $R = \left\{ 1, \frac{-1 \pm \sqrt{1-4}}{2} \right\}$

(ب) $(p_n^2 + \sqrt{n+1}n + 1)(n+1) = 0$

$R = \{-1, -5\}$

(ج) $R = \{1\} \leftarrow (n^2 - n + 1)(n-1) = 0$

(د) $R = [1, 3] \leftarrow \frac{-1 \pm \sqrt{1-4}}{2}$

(هـ) $n < 1 \rightarrow n \neq 0, 1 \checkmark$
 $n > 1 \rightarrow (n-2)(n-3) = 0 \rightarrow n \neq 2, 3 \checkmark$
 $R = \{0, 1, 2, 3\}$
 $D_f = (-\infty, +\infty)$

(و) $R = [-1, 0] \cup [3, 4] \leftarrow n = 0, 1, 3, 4$

(ز) $D_f = [0, +\infty) \leftarrow \sqrt{2[n]} + \frac{1}{n}$

(ح) $D_f = R$

(ط) $D_f = R - \left\{ \frac{k\pi}{2}, k\pi - \frac{\pi}{2} \right\}$

$\frac{\pi}{2} \geq \sin x \leftarrow \frac{\pi}{2} \geq \sin^2 x \leftarrow 1 \geq \sin^2 x$

$\pi \geq x \checkmark$

$\cos^2 x \geq \sin^2 x$

$D_f = [k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2}]$

$$\{m \in \mathbb{N} \mid \frac{m}{m+1} = \frac{m}{m+1}\} = \mathbb{N} \leftarrow$$

$$b) \quad m \in \mathbb{N} \quad \frac{m}{m+1} \rightarrow \frac{m}{m+1} = \frac{m}{m+1}$$

$$[a_1] = \frac{a_1}{a_1+1}$$

$$a) \quad (a_1) \quad \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$\rightarrow \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$a)$$

$$\rightarrow \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$b) \quad \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$\rightarrow \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$a) \quad \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$b) \quad \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$\rightarrow \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$

$$a) \quad \frac{a_1}{a_1+1} = \frac{a_1}{a_1+1}$$