

فصل دوم

الف $\frac{2n^2 + 3n - 1}{2n^2 - 2n} \rightarrow \frac{2n^2 + 3n - 1}{2n^2 - 2n} - 1 = \frac{2n^2 + 3n - 1 - (2n^2 - 2n)}{2n^2 - 2n} = \frac{5n - 1}{2n^2 - 2n}$

ب $\frac{2n^2 + 3n - 1}{2n^2 - 2n} = \frac{5n - 1}{2n^2 - 2n} \Rightarrow \frac{2n^2 + 3n - 1}{2n^2 - 2n} = \frac{5n - 1}{2n^2 - 2n} \Rightarrow (n+1)(n-1)$

$n \neq -\frac{1}{2}, \frac{1}{2}$

$\frac{1}{2} \in D, R = \{-\frac{1}{2}, \frac{1}{2}\}$

ب $\frac{2n^2 + 9n + 10}{2n^2 + 7n + 6} = \frac{(n+1)(2n+10)}{(n+1)(2n+6)} = \frac{2n+10}{2n+6} = \frac{n+5}{n+3}$

$\frac{n+5}{n+3} = \frac{5n-1}{2n^2-2n} \Rightarrow \frac{n+5}{n+3} = \frac{5n-1}{2n^2-2n} \Rightarrow (n+1)(n-1)$

$n \neq -\frac{1}{2}, \frac{1}{2}$

$\frac{1}{2} \in D, R = \{-\frac{1}{2}, \frac{1}{2}\}$

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

$\frac{n-1}{n} = \frac{5n-1}{2n^2-2n} \Rightarrow \frac{n-1}{n} = \frac{5n-1}{2n^2-2n} \Rightarrow (n+1)(n-1)$

$n \neq -\frac{1}{2}, \frac{1}{2}$

$\frac{1}{2} \in D, R = \{-\frac{1}{2}, \frac{1}{2}\}$

ب $\frac{n+5}{n+3} = \frac{5n-1}{2n^2-2n} \Rightarrow \frac{n+5}{n+3} = \frac{5n-1}{2n^2-2n} \Rightarrow (n+1)(n-1)$

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$\frac{1}{2} \in D, R = \{-\frac{1}{2}, \frac{1}{2}\}$

Scanned with

$$n^r - rn + 0$$

$$(n-1)^r = 0 \mid n-1 + \varepsilon \quad -r$$

$$(n-1)^r = n^r + 1 - rn$$

$$\mid n-1 \mid \leq t$$

$$t^r = 0t + \varepsilon \Rightarrow (t-\varepsilon)(t-1)$$

$$t \in \mathbb{R}$$

$$\mid n-1 \mid \leq \varepsilon \quad n-1 \leq \varepsilon \mid n-1 \leq -\varepsilon$$

$$n \leq 0 \quad \mid \quad n \leq -\varepsilon$$

$$\mid n-1 \mid \leq 1 \quad n-1 \leq 1 \quad n \leq 2$$

$$\mid n-1 \mid \leq -1 \quad n \leq -1$$

$$D \subseteq \mathbb{R} = \{0, 1, 0, -r\}$$

-2

$$\{n\}^r \mid \{n\}^r - r \mid \{n\}^r - r$$

$$\rightarrow \frac{0n^r + 4}{}$$

$$\{n\}^r - r \{n\}^r - r \rightarrow (\{n\}^r - r)(\{n\}^r + 1)$$

$$\{n\} \leq r$$

$$\{n\} \leq -1$$

$$r \mid \{n\} \leq r \quad \mid \quad -1 \mid \{n\} \leq -1$$

$$D \subseteq \mathbb{R} = ([r, \varepsilon) \cup [1, 0) \rightarrow (-\infty, -1) \cup [0, r) \cup [\varepsilon, +\infty)$$

$$\left\{n + \frac{r}{r} - 1\right\} + \left\{n + \frac{r}{r}\right\}$$

-8

$$\left\{n + \frac{r}{r}\right\} + \left\{n + \frac{r}{r}\right\} - 1$$

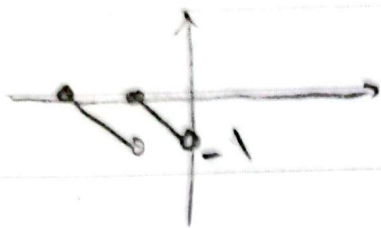
$$0 \leq r \left\{n + \frac{r}{r}\right\} - 1 \quad \frac{1}{r} \leq \left\{n + \frac{r}{r}\right\} \quad 1 \leq n + \frac{r}{r}$$

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$$\frac{1}{r}, \left[\pi \right]$$

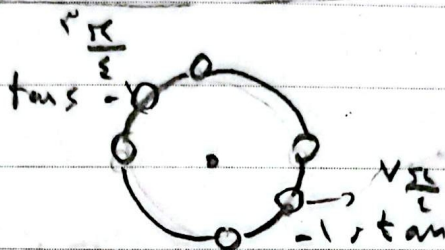
$$\rightarrow) \{ \bullet \} + \{ - \bullet \}$$

$$n = \frac{1}{r} = k \quad n \in k + \frac{1}{r} \quad k \in \mathbb{Z}$$



$$P_i \left(n \mid n \in k + \frac{1}{r}, k \in \mathbb{Z} \right)$$

تعريف $\tan$ و $\cot$
 $\tan$ تعريف $\neq 1$

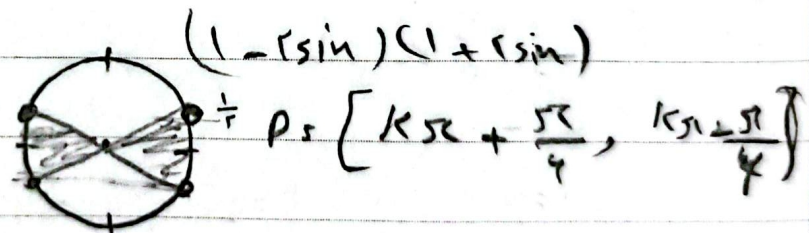


$$R = \left\{ \frac{k\pi}{r}, k\pi - \frac{\pi}{r} \right\}$$

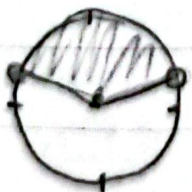
$$\text{ب) } \left\{ \sin^2 n \right\}$$

$$\sin^2 \left(\frac{1}{r} \right)$$

$$\frac{1}{r} \leq \sin n \leq \frac{1}{r}$$



$$\left[\frac{k\pi}{r} + \frac{\pi}{4}, \frac{k\pi}{r} + \frac{3\pi}{4} \right] - V$$



$$\text{ب) } r \cos \left(\frac{1}{r} \right)$$



$$\left[\frac{k\pi}{r} + \frac{\pi}{r}, \frac{k\pi}{r} + \frac{2\pi}{r} \right]$$

الف)

$$I: x^2 + 2x + 1 < 1$$

$$x^2 + 2x \neq 0$$

-1

$$II: x(x+2) \neq 0$$

$$0 < x^2 + 2x < 2$$

$$4 \quad \frac{-2}{-} \quad \frac{0}{4}$$

$$(x+2)(x+1)$$

$$4 \quad \frac{-2}{0} \quad \frac{-1}{0} \quad 4$$

$$I \cap II \rightarrow D \rightarrow [-2, -1]$$

$$I: \sqrt{5-2x} < 1$$

$$\sqrt{5-2x} \geq 1$$

$$5-2x \geq 1$$

$$2x \leq \frac{4}{2}$$

$$II: -2x \leq -2 \quad 2 \leq x$$

$$I \cap II \rightarrow 2 \leq x \leq \frac{4}{2}$$

$$الف \quad I: 1 - \log_n^n > 0 \quad \log_n^n < 1 \quad II: n < 1$$

$$I \cap II \rightarrow 0 < n < 1$$

$$ب) \quad \log_{\frac{1}{r}} n < 1 \quad n > \frac{1}{r} \quad \frac{1}{r} < n$$

$$I \cap II: \begin{cases} x < x-n \\ x < x-n \end{cases}$$

$$x < x-n$$

-1

$$x^2 - (x+n)^2 < 0 \rightarrow (x-n)(x+n) < 0$$

$$I: x < n$$

$$4 \quad \frac{1}{0} \quad \frac{n}{0} \quad 4$$

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$$\frac{\Gamma n + \delta}{\Gamma n + \varepsilon} \in W$$

$$\frac{\Gamma n + \delta}{\Gamma n + \varepsilon} \leq k - \left(\frac{\varepsilon k - \delta}{\Gamma k - \Gamma} \right) \leq n \quad 0 - \frac{\varepsilon k}{\Gamma k - \Gamma} \leq n$$

$$\left\{ n \mid n \leq \frac{\delta - \varepsilon k}{\Gamma k - \Gamma}, k \in W, n \neq -\Gamma \right\}$$