

$$1) \quad r(n+1)^r + (y+r)^r = 0 \Rightarrow k = 9 + r = 11$$

مستأفلة

$$2) \quad n^r + rn = rn + a + r \Rightarrow a + r = ra + r$$

$$a^r + a - r = 0 \quad (a+r)(a-1) \quad a > 0 \quad a=1$$

$$F(1) = a$$

$$3) \quad n = -r \Rightarrow 11 - b = a - 9 \Rightarrow a + b = 20$$

$$4) \quad 4n - a = 0 \\ 12 = a$$

$$b - 3n = 0 \Rightarrow \frac{b}{a} = \frac{1}{4} \\ b = 3$$

$$a) \quad \text{اب) } \rightarrow \begin{array}{c} -1 \quad r \\ + \quad - \quad + \\ - \quad + \quad + \\ (I) \end{array} \quad n$$

$$\begin{array}{c} r \\ + \quad - \\ (II) \end{array} \quad \begin{array}{l} n^r + rn + r \\ \text{مساواة} \\ \text{جواب} \end{array}$$

$$(I) \cap (II) = (-\infty, -1] \cup (r, 4]$$

$$\rightarrow [-1, 4] - \{r\}$$

$$ب) \quad [n] - r \geq 0 \Rightarrow [n] \geq r \Rightarrow n \geq r \\ r \geq [n] \Rightarrow n < r \quad \int \quad n \rightarrow \emptyset \quad D = \emptyset$$

$$\begin{array}{c} (n-r)(n+r) \\ \pm r - r^2 + r^2 \\ 4) \quad \text{اب) } \end{array} \quad \begin{array}{c} -r \quad -r^2 \\ + \quad - \\ -r^2 \quad + \\ \pm r = r^2 \end{array} \quad \begin{array}{c} r^2 \quad r^2 \\ + \quad + \\ + \quad + \end{array}$$

$$(-\infty, -r) \cup (r, r) \cup (r, +\infty)$$

$$z = -r/r/c/c$$

$$(n-1)(n-r)(n+r)$$

$$4) \quad \begin{array}{c} n^r - rn^r - an + 4 \\ -n^r \\ +rn^r \\ +rn^r - n - 4n \end{array} \quad \begin{array}{c} n^r - n - 4 \\ n^r - n - 4 \end{array}$$

$$\begin{array}{c} -r \quad -r \quad -1 \quad 1 \quad r \quad r \\ + \quad - \quad + \quad - \quad + \quad + \end{array}$$

$$\begin{array}{c} n^r + rn^r - an - 4 \\ -n^r \\ -n^r - n \\ -4n - 4 \end{array} \quad \begin{array}{c} n^r + n - 4 \\ (n+r)(n-r) \end{array}$$

$$(-\infty, -r) \cup (r, -1) \cup (1, r) \cup [r, +\infty)$$

الف) ٧) $[-n] - 2 \geq 0 \Rightarrow [-n] \geq 2$
 $-n \geq 2 \Rightarrow n \leq -2$ or $-\infty, -2]$

ب) $\frac{+0}{([n]-1)([n]+1)}$
 $[3, 4) = \frac{0}{-}$
 $[-1, 0) = \frac{0}{-}$

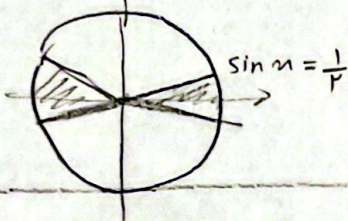
$+ \begin{vmatrix} [-1, 0) \\ 0 \end{vmatrix} - \begin{vmatrix} [3, 4) \\ 0 \end{vmatrix} +$

$R = \{[-1, 0) \cup [3, 4)\}$

الف) ٨) $\tan x = -1$
 $\sin x \neq 0 \quad \cos x \neq 0$

$\Rightarrow R = \left\{ \frac{k\pi}{4}, k\pi + \frac{3\pi}{4} \right\}$

ب) $1 - k \sin^2 n \geq 0 \quad \frac{1}{k} \geq \sin^2 n \Rightarrow \frac{1}{k} \geq \sin n$
 $-\frac{1}{k} \leq \sin n$



$D_y = \left[k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2} \right]$

الف) ٩) $n-1 > 0 \quad (n > 1) \text{ I}$

$1 \geq \log_{\frac{1}{k}} n-1 \Rightarrow \frac{1}{k} > n-1 \Rightarrow \frac{k}{n} \geq 1 \text{ II}$
 $I \cap II = \left\{ D_y = \left(1, \frac{k}{n} \right] \right\}$
 $D = \left[\frac{k}{n}, +\infty \right)$

ب) $n^2 - n \geq 0 \quad n(n-1) + \frac{1}{k} - \frac{1}{k} + [-\infty, 0] \cup [1, +\infty) \text{ (I)}$

$n^2 - n > 0 \Rightarrow + \frac{1}{k} - \frac{1}{k} = (-\infty, 0) \cup (0, +\infty)$

$\log_{\frac{1}{k}} n^2 - n \neq 1 \Rightarrow n^2 - n \neq k \Rightarrow n^2 - n - k \neq 0$

$(I) \cap II \cap III = (-\infty, 0) \cup (3, +\infty) - \{1, k\} \quad n \neq k-1 \Leftrightarrow \frac{(n-k)(n+1)}{(n-k)(n+1)} \text{ (II)}$

الف) ١٠) $\frac{k^2 n - n^2}{k^2} \geq 0 \Rightarrow k^2 n - n^2 \geq 0 \Rightarrow n^2 - kn + k \leq 0$
 $\frac{k^2 n + \omega}{k^2 + 1} \in \omega \quad n \in \left[\frac{k\omega - \omega}{k^2 - k}, \frac{k\omega + \omega}{k^2 - k} \right] \Rightarrow \{n \mid n = \frac{\omega - k\omega}{k^2 - k}, k \in \omega\}$