

النسبة 19 تفسر 4 ماس مع 3.3 الى 1.3.3 A

$$y = \sqrt{\frac{n^2 - 4n}{n^3 - n}} \quad \frac{n^2 - 4n}{n^3 - n} \geq 0 \quad \frac{n(n-4)}{n(n^2 - n)} = \frac{n^4(n-4)}{n(n+1)(n-1)} \geq 0$$

تعيين علامت

$$y = \frac{n}{-1} + \frac{0}{0} + \frac{1}{1} + \frac{4}{4} - \frac{0}{0} + \dots \quad D_f = (-1, 0) \cup (0, 1) \cup [4, +\infty)$$

$$y = \sqrt{\frac{n^3 - n^2}{n^3 - n}} \quad \frac{n^3 - n^2}{n^3 - n} \geq 0 \quad \frac{n^2(n+1)(n-1)}{n(n+1)(n-1)} \geq 0$$

تعيين علامت

$$y = \frac{n}{-1} + \frac{1}{1} + \frac{0}{0} + \frac{1}{1} + \dots \quad D_f = \mathbb{R} - \{1, 0, -1\}$$

$$y = \frac{n+1}{\sqrt{n+|n|}} \quad n+|n| > 0 \quad + \checkmark \quad D_f = \mathbb{R}^+$$

$$y = \frac{1}{\sqrt{n|n|}} \quad n|n| > 0 \quad + \checkmark \quad D_f = \mathbb{R}^+$$

$$y = \sqrt{2 - [n]} \quad 2 - [n] \geq 0 \quad [n] \leq 2 \quad n \leq 2$$

$$D_f = (-\infty, 2]$$

$$y = \frac{1}{\sqrt{2 - [n]}} \quad 2 - [n] > 0 \quad [n] < 2 \quad n < 2 \quad D_f = (-\infty, 2)$$

$$y = \sqrt{\left[n - \frac{1}{n}\right] + \left[n + \frac{1}{n}\right]}$$

$$D_f = \left[\frac{1}{4}, +\infty\right)$$

$$\sqrt{\left[n + \frac{1}{n} - 1\right] + \left[n + \frac{1}{n}\right]} \geq 0$$

$$\left[n + \frac{1}{n}\right] - 1 + \left[n + \frac{1}{n}\right] \geq 0$$

$$\boxed{n \geq \frac{1}{4}}$$

$$-.) y = \sqrt{\left[n + \frac{1}{\varepsilon}\right] + \left[-n + \frac{1}{\varepsilon}\right]} \quad \sqrt{\left[n - \frac{1}{\varepsilon}\right] + \left[-\left(n - \frac{1}{\varepsilon}\right)\right]}$$

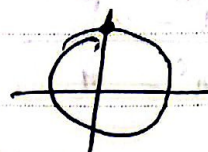
$$\text{if } \begin{cases} a \in \mathbb{Z} & [a] + [-a] = 0 \\ a \notin \mathbb{Z} & [a] + [-a] = -1 \end{cases}$$

$$\checkmark \quad n = \frac{1}{\varepsilon} \in \mathbb{Z} \quad n \in \mathbb{Z} + \frac{1}{\varepsilon}$$

$$D_f = \left\{ n \mid n = k + \frac{1}{\varepsilon} \quad k \in \mathbb{Z} \right\}$$

$$\text{الف) } y = \frac{\sqrt{}}{\sin n - 1}$$

$$\sin n - 1 \neq 0 \quad \sin n \neq 1$$



$$D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{2} \right\}$$

$$n \neq 2k\pi + \frac{\pi}{2}$$

$$-.) y = \frac{\sqrt{}}{\sqrt{\sin^2 n} - 1}$$

$$\sqrt{\sin^2 n} - 1 \neq 0$$

$$\sqrt{\sin^2 n} \neq 1$$

$$\sin^2 n \neq 1$$



$$D_f = \mathbb{R} - \left\{ \frac{k\pi}{\sqrt{}} + \frac{\pi}{\varepsilon} \right\} \quad k \in \mathbb{Z}$$

$$\sin n \neq \pm \frac{\sqrt{}}{\varepsilon}$$

$$\frac{k\pi}{\sqrt{}} - \frac{\pi}{\varepsilon}$$

$$\text{الف) } y = \sqrt{\sqrt{\sin n} - 1}$$

$$\sqrt{\sin n} - 1 \geq 0$$

$$\sqrt{\sin n} \geq 1$$

$$\sin n \geq \frac{1}{\varepsilon}$$



$$D_f = \left[2k\pi + \frac{\pi}{4}, 2k\pi + \frac{3\pi}{4} \right]$$

$$-.) y = \sqrt{\cos n - 1}$$

$$\cos n - 1 \geq 0$$

$$\cos n \geq 1$$

مقادیر یک هستند و بزرگتر از یک نیستند.

$$D_f = \{ 2k\pi \} \quad k \in \mathbb{Z}$$

$$\boxed{\cos n = 1}$$

$$\text{الف.) } \cos y = |n| - r \quad -1 \leq |n| - r \leq 1$$

$$r \leq |n| \leq r + 1$$

$$D_f = [x_0, \{ \} \cup [x_0 - r, -r]$$

$$r \leq n \leq r + 1$$

$$-r \leq n \leq -r - 1$$

$$\text{ب.) } y = \arcsin(n^r + rn + 1)$$

$$-1 \leq n^r + rn + 1 \leq 1$$

$$-r \leq n^r + rn \leq 0$$

$$\text{② } n^r + rn \leq 0$$

$$n(n+r) \leq 0$$

$$\frac{n}{r} \mid \frac{-r}{1} \quad 0$$

$$[-r, 0]$$

$$\text{① } n^r + rn \geq -r$$

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

$$(n+1)(n+r) \geq 0$$

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

$$D_f = [x_0, r] \cup [-1, 0] = (-\infty, -r] \cup [-1, +\infty) \cap [x_0, 0]$$

$$\text{الف.) } y = \sqrt{r - \log_p(n-r)}$$

$$\text{① } n-r > 0$$

$$n > r$$

$$\text{② } r - \log_p(n-r) \geq 0$$

$$\log_p(n-r) \leq r$$

$$D_f = (r, 11]$$

$$r \leq n \leq 11$$

$$n-r \leq 9 \quad n \leq 11$$

$$\text{ب.) } \log(n^r - n)$$

$$n^r - n > 0$$

$$\frac{n}{r} \mid \frac{-1}{1} \quad 0$$

$$n(n+1)(n-1) > 0$$

$$D_f = [-1, 0) \cup (1, +\infty)$$

$$\text{الف) } y = \frac{x}{x^n + 1}$$

$$x^n + 1 \neq 0 \quad x^n \neq -1$$

$$D_f = \mathbb{R}$$

مستقيم حقيقي

$$\text{ب) } y = \frac{x}{x^n - 1}$$

$$x^n - 1 \neq 0$$

$$x^n \neq 1 \quad x^n \neq 1 \quad n \neq 0$$

$$D_f = \mathbb{R} - \{0\}$$

$$\text{ج) } y = \frac{x}{x^n - x}$$

$$x^n - x \neq 0$$

$$x^n \neq x \rightarrow \log_x \neq 1$$

$$D_f = \mathbb{R} - \{\log_x\}$$

$$\text{د) } y = \frac{x}{x^n - x}$$

$$x^n - x \neq 0$$

$$x^n \neq x \rightarrow \log_x \neq 1$$

$$D_f = \mathbb{R} - \{\log_x\}$$

$$\text{الف) } y = (x^n + 1)!$$

$$D_f = \{n \mid n = \frac{k-1}{x}, k \in \mathbb{N}\}$$

$$x^n + 1 \in \mathbb{N} \quad x^n \in \mathbb{N} - 1 \quad n \in \mathbb{N} - 1$$

$$\text{ب) } \left(\frac{x^n - x}{x^n - x} \right)!$$

$$\frac{x^n - x}{x^n - x} \in \mathbb{N}$$

$$n \in \frac{x^n - x}{x^n - x}$$

$$x^n - x \in x^n - x$$

$$x^n - x \in x^n - x$$

$$n(x^n - x) \in x^n - x$$