

تاریخ سر ۶

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درجہ نمبر ۳

۱۸، ۶

(۱)

$$\sqrt{\frac{n^2 - 4a}{n^2 - a}} \rightarrow n(n-4) \rightarrow (-4)$$

$$\sqrt{\frac{n^2 - 4a}{n^2 - a}} \rightarrow n(n-1) \rightarrow (-1)$$

$$\frac{-1}{-1} + \frac{0}{0} + \frac{1}{1} - 1 +$$

$$(-1, 0) \cup (0, 1) \cup [4, +\infty) = D_f$$

(۲) ✓

$$\sqrt{\frac{n^2 - a^2}{n^2 - a}} \rightarrow n^2(a^2 - 1) \rightarrow (1, -1)$$

$$\rightarrow n(n-1) \rightarrow (1, -1, 0)$$

$$\frac{-1}{-1} + \frac{0}{0} + \frac{1}{1} + \Rightarrow R - \{-1, 0, 1\}$$

$$y = \frac{n+1}{\sqrt{n+|a|}} = \frac{+1}{-a} \Rightarrow D_f \rightarrow n > 0$$

(۲) ✓

$$y = \frac{1}{\sqrt{n|a|}} = \frac{+1}{-a} \Rightarrow D_f \rightarrow n > 0$$

(۳)

$$y = \sqrt{r - [n]} \rightarrow r - [n] \geq 0 \Rightarrow r \geq [n] \rightarrow n \leq r$$

$$D_f = (-\infty, r)$$

(۲) ✓

$$y = \frac{1}{\sqrt{r - [n]}} \rightarrow r - [n] > 0 \Rightarrow r > [n] \rightarrow n \leq r$$

$$D_f = (-\infty, r)$$

$$y = \sqrt{\left[n - \frac{1}{r}\right] + \left[n + \frac{1}{r}\right]} \quad \left[n - \frac{1}{r}\right] + \left[n - \frac{1}{r}\right] + 1 = 2\left[n - \frac{1}{r}\right] + 1 \geq 0$$

$$\left[n + 1 - \frac{1}{r}\right] \Rightarrow \left[n - \frac{1}{r}\right] + 1 \quad 2\left[n - \frac{1}{r}\right] \geq -1$$

$$\left[n - \frac{1}{r}\right] \geq -\frac{1}{2}$$



Senobar

✓

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

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

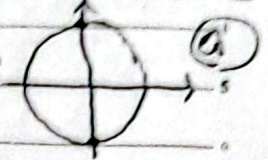
$$n - \frac{1}{p} \in \mathbb{Z} \rightarrow n \in \mathbb{Z} + \frac{1}{p} \quad \checkmark$$

$$D_y = \left\{ n \mid n = k + \frac{1}{p}, k \in \mathbb{Z} \right\}$$

$$y = \frac{1}{\sin n - 1} \rightarrow \sin n - 1 \neq 0 \rightarrow \sin n \neq 1$$

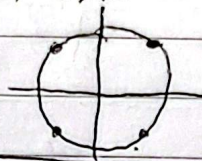
$$\sin n \neq 1 \rightarrow 90^\circ$$

$$\rightarrow 270^\circ$$



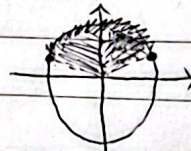
$$D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$$

$$y = \frac{p}{p \sin^p n - 1} \rightarrow p \sin^p n - 1 \neq 0 \rightarrow p \sin^p n \neq 1 \rightarrow \sin^p n \neq \frac{1}{p} \rightarrow \sin n \neq \sqrt[p]{\frac{1}{p}}$$



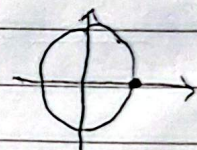
$$D_f = \mathbb{R} - \left[\frac{k\pi}{p} + \frac{\pi}{p} \right]$$

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



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

$$y = \sqrt{\cos n - 1} \rightarrow \cos n - 1 \geq 0 \rightarrow \cos n \geq 1$$



$$D_f = \mathbb{R} - \{ k\pi \}$$

$$\cos y = |x|^{-p} \quad -1 \leq |x|^{-p} \leq 1 \quad p \leq |x| \leq \varepsilon$$

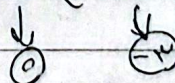
$$D_f = [-\varepsilon, -1] \cup [1, \varepsilon]$$

$$y = \arcsin(x^p + px + 1)$$

$$-1 \leq x^p + px + 1 \leq 1$$

$$\textcircled{1}, \textcircled{2} \rightarrow D_f = [-p, p] \cup [-1, 0]$$

$$\textcircled{1} \quad x^p + px + 1 \leq 1 \Rightarrow x^p + px \leq 0 \Rightarrow x(x + p) \leq 0$$



$$[-p, 0]$$

$$\textcircled{2} \quad x^p + px + 1 \geq -1 \Rightarrow x^p + px \geq -2$$

$$x^p + px \geq -2$$

$$[-p, 0]$$

$$(-\infty, -p] \cup [-1, +\infty)$$

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$$y = \sqrt{x - \log^{(n-r)}_r} \quad (1) \Rightarrow D_f = (r, \infty) \quad (1)$$

$$(1) \quad n-r > 0 \Rightarrow \boxed{n > r}$$

$$(2) \quad x - \log^{(n-r)}_r > 0 \Rightarrow x > \log^{(n-r)}_r \Rightarrow x > n-r \Rightarrow \boxed{n > r}$$

$$y = \log(x^2 - n) \quad (2) \quad (1) \quad (2) \quad (3) \quad (4) \quad (5) \quad (6) \quad (7) \quad (8) \quad (9) \quad (10) \quad (11) \quad (12) \quad (13) \quad (14) \quad (15) \quad (16) \quad (17) \quad (18) \quad (19) \quad (20) \quad (21) \quad (22) \quad (23) \quad (24) \quad (25) \quad (26) \quad (27) \quad (28) \quad (29) \quad (30) \quad (31)$$

$$x^2 - n > 0 \Rightarrow x(x^2 - 1) > 0 \quad D_f = (-1, 0) \cup (1, +\infty)$$

$$y = \frac{x}{x^2 + 1} \rightarrow x^2 + 1 \neq 0 \Rightarrow \text{جواب ندارد} \quad D_f = \mathbb{R}$$

$$(2) \quad (3) \quad (4) \quad (5) \quad (6) \quad (7) \quad (8) \quad (9) \quad (10) \quad (11) \quad (12) \quad (13) \quad (14) \quad (15) \quad (16) \quad (17) \quad (18) \quad (19) \quad (20) \quad (21) \quad (22) \quad (23) \quad (24) \quad (25) \quad (26) \quad (27) \quad (28) \quad (29) \quad (30) \quad (31)$$

$$y = \frac{x}{x^2 - 1} \quad x^2 - 1 \neq 0 \Rightarrow x^2 \neq 1 \quad x \neq 0$$

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

$$y = \frac{x}{x^2 - r} \quad x^2 - r \neq 0 \Rightarrow x^2 \neq r \quad x = \log_r r \Rightarrow x = \frac{1}{r}$$

$$D_f = \mathbb{R} - \left\{\frac{1}{r}\right\}$$

$$y = \frac{x}{x^2 - r} \quad x^2 \neq r \quad x = \log_r r$$

$$D_f = \mathbb{R} - \left\{\log_r r\right\}$$

$$y = (x+1) \mid \quad k \in \mathbb{W} \quad (x+1) \in \mathbb{W} \Rightarrow x+1 = k \Rightarrow x = k-1 \quad (10)$$

$$x = \frac{k-1}{r}$$

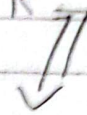
$$D_f = \left\{x \mid x = \frac{k-1}{r}, k \in \mathbb{W}\right\}$$



$$y = \left(\frac{p_m - r}{p_m - a} \right)!$$

(2) ✓

$$\frac{p_m - r}{p_m - a} \in W \Rightarrow \frac{p_m - r}{p_m - a} = K$$



$$D_f = \left\{ n \mid n = \frac{aK - r}{pK - r}, K \in W \right\}$$

$$pKm - aK = p_m - r$$

$$pKm - p_m = aK - r$$

$$n(pK - r) = aK - r$$

$$n = \frac{aK - r}{pK - r}$$