

$y = \frac{n^2 - 4n}{n^2 - n} \geq 0 \Rightarrow \frac{n(n-4)}{n(n-1)} \geq 0$ جواب: $n \geq 4$ علامت $D_f = (-\infty, 0) \cup (0, 1) \cup [4, +\infty)$ به دلیل نزدیکی نام و نام خانوادگی
 $f = \frac{n^2 - n^2}{n^2 - n} \geq 0 \Rightarrow \frac{n^2(n-1)}{n^2(n-1)} \geq 0$ $D_f = (0, 1) \cup (1, +\infty)$ نمونه شما صفری و اخذ شدند
 $n \neq 0 \quad n \neq 1 \quad n \geq 0$ + -1 +0 +1 $D_y = (-1, 0) \cup (0, 1) \cup [4, +\infty)$ 1,6
 $D_y = \mathbb{R} - \{-1, 0, 1\}$

$y = \frac{n+1}{\sqrt{n+1}}$ $|n+1| > 0$ $n < 0$ $n > 0$ $D_f = (0, +\infty)$
 $\frac{1}{\sqrt{n+1}}$ $|n+1| > 0$ $n < 0$ $n > 0$ $D_f = (0, +\infty)$ ✓

$y = \sqrt{2-|n|}$ $2-|n| \geq 0$ $|n| \leq 2$ $n < 2$ $D_f = (-\infty, 2)$
 $y = \frac{1}{\sqrt{2-|n|}}$ $2-|n| > 0$ $|n| < 2$ $n < 2$ $D_f = (-\infty, 2)$ ✓

$\sqrt{[n-\frac{1}{p}] + [n+\frac{r}{p}]} \quad [n-\frac{1}{p}] + [n+\frac{r}{p}] \geq 0$ $n + \frac{r}{p} = (n - \frac{1}{p}) + 1$ $n(n+1) > 0$ $n > 0$
 $[n - \frac{1}{p} + 1] + [n + \frac{r}{p}] \geq 1$ $n = (n + \frac{1}{p}) - (n + \frac{1}{p}) = n + 1$ $[n - \frac{1}{p}] > 0$
 $2[n + \frac{r}{p}] \geq 1 \rightarrow [n + \frac{r}{p}] \geq \frac{1}{2} \rightarrow n + \frac{r}{p} \geq 1 \rightarrow n \geq \frac{1}{p}$ 1,6
 $y = \sqrt{[n-\frac{1}{p}] + [-n+\frac{1}{p}]}$ $a = n - \frac{1}{p}$ $[a] + [-a] \in \mathbb{Z}$ $n - \frac{1}{p} = n$
 $[n - \frac{1}{p}] + [-n + \frac{1}{p}] \geq 0$ $D = \{n + \frac{1}{p} \mid n \in \mathbb{Z}\}$ $n = n + \frac{1}{p}$

$y = \frac{r}{\sin n - 1}$ $\sin n - 1 \neq 0$ $n \neq \frac{\pi}{2} + 2k\pi$ $D_f = \mathbb{R} - \{\frac{\pi}{2} + 2k\pi\}$
 $y = \frac{r}{r \sin^2 n - 1}$ $r \sin^2 n - 1 \neq 0$ $\sin n \neq \pm \frac{\sqrt{r}}{r}$ $D_f = \mathbb{R} - \{\frac{\pi}{2} + \frac{k\pi}{r}\}$
 $r \sin^2 n \neq 1$ $\sin n \neq \pm \frac{\sqrt{r}}{r}$ $n \neq \frac{k\pi}{r} + \frac{\pi}{2}$

✓

$$y = \sqrt{x \sin x - 1}$$

$$x \sin x - 1 \geq 0$$

$$\sin x \geq \frac{1}{x}$$

$$\frac{\pi}{2} < x < \frac{5\pi}{2}$$

$$D = \bigcup_{k \in \mathbb{Z}} \left[\frac{\pi}{2} + 2k\pi, \frac{5\pi}{2} + 2k\pi \right]$$

$$y = \sqrt{x \cos x - 1}$$

$$\cos x - 1 \geq 0$$

$$\cos x \geq 1$$

$$\cos x = 1$$

$$x = 2k\pi$$

$$D = \{2k\pi \mid k \in \mathbb{Z}\}$$

(9)

$$\cos y = |x| - 2$$

$$-1 \leq \cos y \leq 1$$

$$-1 \leq |x| - 2 \leq 1$$

$$1 \leq |x| \leq 3$$

$$-3 \leq x \leq -1$$

$$-1 \leq x \leq 1$$

$$D = [-3, -1] \cup [1, 3]$$

$$(x+1)^2 \leq 1$$

$$-1 \leq x+1 \leq 1$$

$$-2 \leq x \leq 0$$

$$D = [-2, 0]$$

$$y = \arcsin(x^2 + 2x + 1)$$

بایستی متوجه شویم

$$y = \sqrt{x - \log(x-2)}$$

$$x-2 \geq 0$$

$$x \geq 2$$

$$x - \log(x-2) \geq 0$$

$$\log(x-2) \leq x$$

$$x-2 \leq 9$$

$$x \leq 11$$

$$D = (2, 11]$$

(1)

$$y = \log_2(x^3 - x)$$

$$x^3 - x \geq 0$$

$$x(x-1)(x+1) \geq 0$$

$$x \geq 0$$

$$x \leq -1$$

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

$$(x-1)(x+1)(x) \geq 0$$

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(9)

$$y = \frac{x}{x^m + 1}$$

$$x^m + 1 \neq 0$$

$$D = \mathbb{R}$$

$$y = \frac{x}{x^m - 2}$$

$$x^m - 2 \neq 0$$

$$x^m \neq 2$$

$$D = \mathbb{R} - \left\{ \sqrt[m]{2} \right\}$$

$$y = \frac{x}{x^m - 1}$$

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

$$x^m \neq 1$$

$$x \neq 1$$

$$D = \mathbb{R} - \{1\}$$

$$y = \frac{x}{x^m - 3}$$

$$x^m - 3 \neq 0$$

$$x^m \neq 3$$

$$x \neq \sqrt[m]{3}$$

$$D = \mathbb{R} - \left\{ \sqrt[m]{3} \right\}$$

(9) ✓

$$y = (x^m + 1)!$$

$$x^m + 1 = n$$

$$x^m = n - 1$$

$$D = \left\{ \frac{n-1}{x} \mid x = 0, 1, 2, \dots \right\}$$

(10)

$$y = \left(\frac{x^m - 2}{x^m - 5} \right)!$$

$$\frac{x^m - 2}{x^m - 5} \in \mathbb{N}$$

$$x^m - 2 \in n(x^m - 5)$$

$$x^m - 2 = nx^m - 5n$$

$$(1 - 5n)x^m = 2 - 5n$$

$$x^m = \frac{2 - 5n}{1 - 5n}$$

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باید متوجه شویم
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