

نام و نام خانوادگی: سید علی حسینی پاسخنامه تشریحی تکلیف شماره: کلاس: ...

19/10/1402 آزمون عالی نورس

الف) ①  $n \neq 0$  و ②  $\frac{x^{n+1} - x^{n-1}}{n(n-1)} \geq 0$   $\rightarrow D_f = (-\infty, 0) \cup [\frac{1}{n}, \infty)$

ب) ①  $n \neq -1, 0, 1, 2$  و ②  $\frac{3n+9+n-1}{(n-1)(n+2)} \neq 0 \rightarrow n+4 \neq 0 \rightarrow n \neq -4$   
 $\rightarrow D_f = \mathbb{R} - \{-4, -1, 0, 1, 2\}$

الف)  $(\frac{1}{x})^n = 0 \rightarrow n = -2$  و  $3x - \frac{1}{x} = 0 \rightarrow n = 2, \Delta$   
 $\rightarrow D_f = \mathbb{R} - (-2, 2, \Delta)$

ب) ①  $n \geq 1$  و ②  $y \geq -1$   $\rightarrow \sqrt{y+1} = 3 - \sqrt{n-1} \geq 0$   
 $\rightarrow D_f = [1, 12]$

①  $n \neq 0 \rightarrow \mathbb{R} \checkmark$  (همواره مثبت)  
 ②  $\sqrt{n^2-1} \rightarrow n \neq [-1, 1]$   
 ③  $n^2 - n - 2 \geq 0 \rightarrow (n-2)(n+1) > 0 \rightarrow n \neq [-1, 2]$   
 $\rightarrow D_f = \mathbb{R} - [-1, 2]$

$a+b = \frac{1}{x} + \frac{y}{y} = \frac{y}{x} = 1$   
 $3x + 2a - 5 = 0 \rightarrow -2a + 5 = 0 \rightarrow a = \frac{5}{2}$   
 $a = \frac{1}{x} \rightarrow -\frac{1}{x^2} - \frac{1}{x} + 3 = 0$   
 $S = \frac{1}{x} = \frac{1}{x} = -2 + 0$   
 $b = \frac{y}{y} = 0 = \frac{y}{y}$

$f_{km1} - n = 0 \rightarrow f_{km1} = n \rightarrow 3n - 2 \leq n$   
 $2n \leq 2 \rightarrow n \leq 1$   
 $D_f = [-3, +\infty)$   
 $f(r) - 2 = 4 - 2 > 0 \checkmark$

$$\sin \frac{\pi}{3} + \cos \frac{\pi}{3} = \frac{1+\sqrt{3}}{2} \rightarrow 2 \left( \frac{1+\sqrt{3}}{2} \right)^2$$

$$= 2 \left( \frac{1+\sqrt{3}}{2} \right)^2 - \left( \frac{1+\sqrt{3}}{2} \right) = \frac{1+\sqrt{3}}{2}$$

دقت کن!  $-\frac{1}{2}$

$$f(a) = \frac{a+1}{a-1} \rightarrow f(f(a)) = \frac{\frac{a+1}{a-1} + 1}{\frac{a+1}{a-1} - 1} = \frac{a+1+a-1}{a+1-a+1} = \frac{2a}{2} = a$$

$a \neq 1$

$a \in \mathbb{R} - \{1\}$

$\rightarrow a = 1$   $\rightarrow \frac{1+1}{1-1}$   $\rightarrow$  خطا

$$f(\beta) = -\epsilon \rightarrow f(\beta) = \beta^2 - \epsilon \beta = -\epsilon$$

$$\hookrightarrow (\beta - \epsilon)^2 = 0 \rightarrow \beta = \epsilon = g(a)$$

$$g(a) = \epsilon \rightarrow \epsilon = \sqrt{a^2 - 1}$$

$$a = \pm \sqrt{a^2 - 1}$$

$$f(n+r) = \frac{(n-r)(n-r)}{n+r-9} \rightarrow f(n) = (n-9)(n-9)$$

$$\rightarrow f(n) \times f(-n) = (-9)(-1)(-9)(-1) = 81$$

$$f(m) = \tan^2 m \rightarrow r, d = fC^2 + dC \xrightarrow{\times r} 1C^2 + 10C - 7 = 0$$

$$C^2 + 10C - 7 = 0$$

$$(C+14)(C-4) = 0$$

$$\hookrightarrow -14 \text{ و } 4 \xrightarrow{\pm 1} \frac{-14}{4} \text{ و } \frac{4}{4}$$

$$\cos m = \frac{1}{r}$$

$$\tan^2 m = \frac{1}{\cos^2 m} - 1 = \frac{1}{\frac{1}{4}} - 1 = 3$$

ت معنون از شما

از معصوم عزیز



$$f(n) = r^n - 2n = r^n - 2n + 2 - 2 = r(n^2 - 2n + 1) - 2 = r(n-1)^2 - 2$$

-4

$$\sin \frac{\pi}{r} + \cos r\pi = \sqrt{\frac{r}{r}} + 1 \rightarrow f\left(\sqrt{\frac{r}{r}} + 1\right) = r\left(\sqrt{\frac{r}{r}} + 1 - 1\right)^2 - 2 = r\left(\frac{r}{r}\right) - 2 = -\frac{1}{r}$$