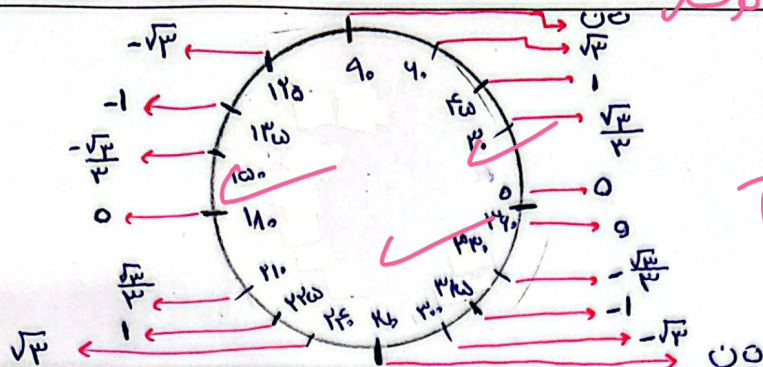


سارا نام
ناتین خوب نوشته



الف) $\sin \frac{\pi}{4} + \cos \pi + 2 \tan \frac{3\pi}{4} =$

$\frac{1}{\sqrt{2}} + (-1) + 2(-1) = -\frac{2+\sqrt{2}}{\sqrt{2}}$

ج) $\cot \frac{\pi}{4} + 3 \cot \frac{\pi}{4} - 2 \tan \frac{\pi}{4} =$

$-\frac{\sqrt{3}}{3} + 3(\frac{\sqrt{3}}{3}) - 2(-\frac{\sqrt{3}}{3}) = \frac{4\sqrt{3}}{3}$

ب) $-\cos \frac{\pi}{4} + \sin \frac{\pi}{4} - 3 \sin \frac{\pi}{4} =$

$-(-\frac{\sqrt{2}}{2}) + \frac{\sqrt{2}}{2} - 3(\frac{\sqrt{2}}{2}) = -\frac{\sqrt{2}}{2}$

د) $\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) =$

$1 + 1 = 2$

$a^2 + 2a = \frac{2a+a+2}{2a}$

$a^2 + 2a = 0$

$(a+2)(a-1) = 0$

$\downarrow \quad \downarrow$
 $-2 \quad 1$

$a = 1$ و $a = -2$

$f(1) = 1 + 2 = 3$

$1n+1 \leq 2 \quad m+1 \leq 2 \quad n+1 \leq 2 \rightarrow m \leq 2 \rightarrow$ عدد و مشترک

$2(3)^2 - b = a + 2(3)$

$11 - b = a - 6$

$\frac{11-6}{2} = a+b$

$a+b = 2.5$

الف) $x^3 - 4x^2 \neq 0$

$x^2(x-4) \neq 0 \quad D = \mathbb{R} - \{0, 4\}$

ب) $2x^3 + 4x^2 + 2x + 4 \neq 0$

از $(n+2)$ فاکتوری $2x^2(n+2) + 2(n+2)$

$(n+2)(2x^2 + 2) \neq 0 \quad D = \mathbb{R} - \{-2\}$

$n \neq -2$ نمی تواند صفر باشد

الف) $n^2 - 1 > 0 \quad n^2 > 1 \rightarrow n > 1 \text{ یا } n < -1$ $n - 2 > 0 \quad n > 2$ $D = [2, +\infty)$	ب) $4 - 3n > 0 \quad n < \frac{4}{3}$ $4n - 3 > 0 \quad n > \frac{3}{4}$ $D = (\frac{3}{4}, \frac{4}{3}]$	۶
$4n - a > 0 \rightarrow \dots, 4n > a \rightarrow n > \frac{a}{4}$ $b - 2n > 0 \rightarrow b > 2n \rightarrow \frac{b}{2} > n$	$\frac{a}{4} < n < \frac{b}{2} = \text{مطلوب}$ $\left(\frac{a}{4}, \frac{b}{2}\right)$ $\frac{a}{4} = 2 \rightarrow a = 8 \quad \frac{b}{2} = \frac{4}{3} \rightarrow b = \frac{8}{3}$ دسته فقط {۲}	۷
الف) $\sqrt{\frac{n^2 - 9}{n^2 - 12n + 36}} = \frac{(n-3)(n+3)^{-1/2}}{(n-3)(n+3)^{-1/2}}$ $(n-3)(n+3) = (n-3)(n+3)(n-3)(n+3)$ $D = (-\infty, 3) \cup (3, 4) \cup (4, +\infty)$	ب) $n^3 - 2n^2 - 5n + 4 \div (n-1) = n^2 - n - 4$ $n^2 - 2n^2 - 5n + 4 = (n-1)(n-3)(n+2)$ $n^2 + 2n^2 - 5n - 4 \div (n+1) = n^2 + n - 4$ $n^3 + 2n^2 - 5n - 4 = (n+1)(n-2)(n+2)$ دسته فقط {۲}	۸
الف) $2[n] - 4 > 0$ $2[n] > 4$ $[n] > 2$ $D = [3, +\infty)$	ب) $2[n] - 5 > 0$ $2[n] > 5$ $[n] > 2.5 \rightarrow [n] \geq 3$ $D = [3, +\infty)$	۹
الف) $\frac{n+1}{n-3} > 0 \quad n > 3 \text{ یا } n < -1$ $4 - n > 0 \quad n < 4$ $n^2 + 2n + 4 > 0 \quad n > -1 \text{ یا } n < -4$ $D = (-\infty, -4) \cup (-1, 3) \cup (3, +\infty)$	ب) $2 - [n] > 0$ $[n] - 4 > 0$ $[n] > 4$ $n \rightarrow (-\infty, 3)$ اشتراک ندارند $D = \emptyset$	۱۰

دسته سوال ۸ قسمت ب) $(-\infty, 3) \cup (-1, 4) \cup (4, +\infty)$