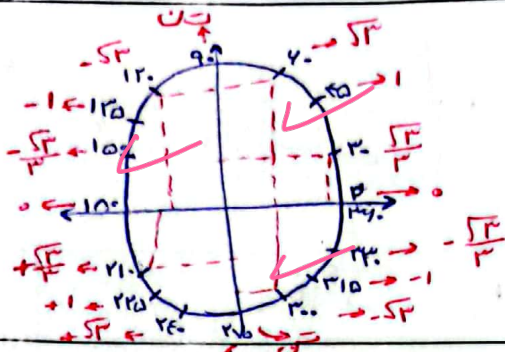


۱۹/۲۵ آفرین

نام و نام خانوادگی نیا سحر پاسخنامه تشریحی تکلیف شماره ۲ کلاس ۱۳۹۷ B

۹۰ و ۲۷۰ درجه



$$\begin{aligned} -\cos(15^\circ) + \sin(15^\circ) - 2\sin(75^\circ) &= 0 \\ -\cos(75^\circ) + \sin(45^\circ) - 2\sin(15^\circ) &= 0 \\ \frac{\sqrt{3}}{4} + \frac{\sqrt{3}}{4} + \frac{\sqrt{3}}{4} &= \frac{\sqrt{3}}{4} \end{aligned}$$

$$\begin{aligned} \sin 20^\circ + \cos(110^\circ) + 2\tan(135^\circ) &= 0 \\ \frac{1}{4} + (-1) + 2\tan(45^\circ) &= 0 \\ \frac{1}{4} - 1 + 2 &= 0 \end{aligned}$$

$$\begin{aligned} \cos(\sin 90^\circ) &= 1 \rightarrow 1+1=2 \\ \sin(\cos 90^\circ) &= 0 \rightarrow 0+0=0 \end{aligned}$$

$$\begin{aligned} \cot(15^\circ) + 2\cot(75^\circ) + 2\tan(105^\circ) &= 0 \\ \cot(45^\circ) + 2\cot(45^\circ) - 2\tan(45^\circ) &= 0 \\ -\frac{\sqrt{3}}{4} + 2\frac{\sqrt{3}}{4} + 2\frac{\sqrt{3}}{4} &= 0 \end{aligned}$$

$$a^r + ra = ra + a + r$$

$$a^r + ra = ra + a$$

$$a^r + ra - ra - a = 0$$

$$a^r + a - r = 0 \rightarrow (a+r)(a-1)$$

$$a = -r \text{ or } a = 1$$

$$1+r = a \checkmark$$

$$r+1+r = a \checkmark$$

$$f(1) = a$$

$$\begin{aligned} |x+1| \geq 2 &\rightarrow x+1 \geq 2 \rightarrow x \geq 1 \\ &\rightarrow x+1 \leq -2 \rightarrow x \leq -3 \end{aligned}$$

$$\begin{aligned} x = -3 &\rightarrow \begin{cases} 1a-b \\ a-4 \end{cases} \rightarrow -b+1a = a-4 \\ &\rightarrow a+b = 4 \end{aligned}$$

$$2a^r + 4a^r + 2a + r \neq 0 \quad D_f = \mathbb{R} - \{ -r \}$$

$$r(a^r + 2a^r + a + r) \neq 0$$

$$r(a^r + r) + r(a+r) \neq 0$$

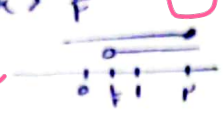
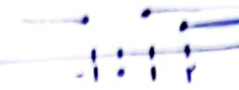
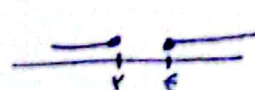
$$(a+r)(ra+r) \neq 0 \quad r(a+r)(a^r+1) \neq 0$$

$$a^r - 4a^r \neq 0$$

$$a^r(a-4) \neq 0$$

$$a \neq 0 \quad a \neq 4$$

$$D_f = \mathbb{R} - \{ -r, 4 \}$$

$4 - 1^2 \geq 0$ $1^2 \alpha \leq 4 \rightarrow \alpha \leq 1$ $4\alpha - 1^2 \geq 0$ $4\alpha \geq 1 \rightarrow \alpha \geq \frac{1}{4}$ $D_f = (\frac{1}{4}, 1]$ 	$\alpha^2 - 1 \geq 0$ (الف)  $D_f = [1, +\infty) \cap \dots$ $\alpha^2 \geq 1 \rightarrow \alpha \geq 1$ $\alpha \leq -1$ $\alpha - 1 \geq 0 \rightarrow \alpha \geq 1$	6
$4\alpha - a \geq 0$ $4\alpha \geq a$ $\alpha \geq \frac{a}{4}$ $\frac{a}{4} \leq \alpha \leq \frac{b}{r}$	$b - 1^2 \alpha \geq 0$ $1^2 \alpha \leq b$ $\alpha \leq \frac{b}{r}$ $\frac{b}{r} \geq 1 \rightarrow b \geq r$ $\frac{a}{4} \geq 1 \rightarrow a \geq 4$ $\frac{b}{a} = \frac{4}{1r} \rightarrow \frac{1}{r}$	7
$\alpha^2 - 2\alpha^2 - a\alpha + 4 \mid \alpha - 1$ $(\alpha - 1)(\alpha^2 - \alpha - 4)$ $(\alpha - 1)(\alpha + 2)(\alpha - 3)$ $\alpha^2 + 2\alpha^2 - a\alpha - 4 \mid a + 1$ $\alpha^2 + \alpha - 4$ $(\alpha + 1)(\alpha - 2)(\alpha + 3)$ $D_f = (-3, -2] \cup (-1, 1] \cup (2, 3]$	$D_f = R - \{\pm 2, \pm 3\}$ $\alpha^2 - \alpha - 4 \geq 0$ (الف) $(\alpha - 3)(\alpha + 2) \geq 0$ $\alpha \geq 3 \quad \alpha \leq -2$ $\alpha = \pm 2$ $\alpha = \pm 3$ $\alpha^2 - 1^2 \alpha^2 + 1^2 \alpha + 4 \geq 0$ $(\alpha^2 - 4)(\alpha^2 - 9) \geq 0$ $(\alpha - 2)(\alpha + 2)(\alpha - 3)(\alpha + 3)$	8
$2[\alpha] - a \geq 0$ $2[\alpha] \geq a$ $[\alpha] \geq \frac{a}{2}$ $D_f = [r, +\infty)$	$2[\alpha] - 4 \geq 0$ (الف) $2[\alpha] \geq 4$ $[\alpha] \geq 2 \rightarrow [2, +\infty)$ $D_f = [2, +\infty)$	9
$[\alpha] + r \geq 0$ $[\alpha] \geq -r \rightarrow \alpha \geq -r$ $r - [\alpha] \geq 0 \rightarrow [\alpha] \leq r \rightarrow \alpha \leq r$ $D_f = [-r, r]$ 	$\alpha + 1 \geq 0 \rightarrow \alpha \geq -1$ (الف) $\alpha - 2 \neq 0 \rightarrow \alpha \neq 2$ $4 - \alpha \geq 0 \rightarrow \alpha \leq 4$ $\alpha^2 + 2\alpha + 1 \rightarrow (\alpha + 1)^2$ $D_f = [-1, 4] - \{2\}$	10

الف- ٨) $y = \sqrt{\frac{n^2 - n - 4}{n^4 - 13n^2 + 34}} \leadsto \frac{n^2 - n - 4}{n^4 - 13n^2 + 34} \geq 0 \leadsto \frac{(n-4)(n+1)}{(n^2-9)(n^2-4)} \geq 0$

$$\frac{(n-4)(n+1)}{(n-3)(n+3)(n-2)(n+2)} \geq 0 \leadsto \begin{array}{ccccccc} & -3 & -2^* & 2 & 3^* & & \\ + & \frac{0}{+} & - & \frac{0}{-} & + & \frac{0}{+} & + \end{array}$$

$$D_f = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$$