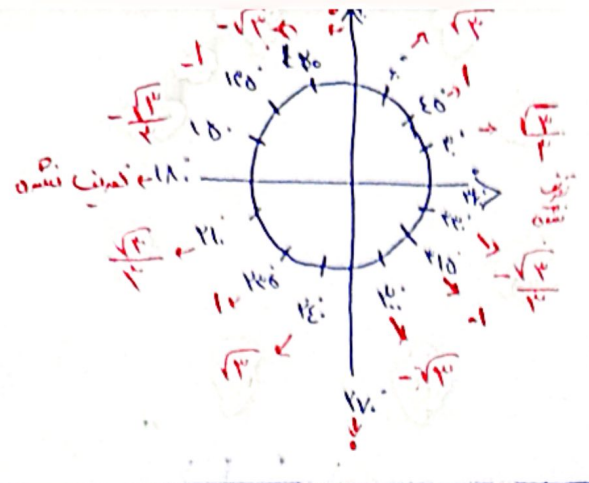


هنا عرب



1) $\sin \frac{\pi}{6} + \cos \pi + \tan \frac{5\pi}{6} = \frac{-5}{2}$
 $\frac{1}{2} + -1 + 2(-1)$

ب) $-\cos \frac{\pi}{6} + \sin \frac{2\pi}{3} - 2 \sin \frac{5\pi}{6} = \frac{\sqrt{3}}{2}$
 $-\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2} - 2 \times \frac{\sqrt{3}}{2}$

ج) $\cot \frac{7\pi}{6} + \cot \frac{5\pi}{6} - 2 \tan \frac{5\pi}{6}$
 $\frac{-\sqrt{3}}{2} + \frac{2\sqrt{3}}{2} - 2 \times \frac{-\sqrt{3}}{2}$
 $\frac{-\sqrt{3} + 2\sqrt{3} + 2\sqrt{3}}{2} = \frac{3\sqrt{3}}{2}$

د) $(\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{6}))$
 $1 + 1 \times \frac{\sin \frac{\pi}{6}}{2} = \frac{5}{2}$

$f(x) = \begin{cases} x^2 + \epsilon x & x \geq a \\ x + a + \gamma & x < a \end{cases}$ $a > 0$
 $f(1) = 0$
 $x = a \rightarrow \begin{cases} a^2 + \epsilon a = \gamma a + a + \gamma \\ a^2 + a - \gamma = 0 \\ (a + \gamma)(a - 1) = 0 \end{cases} \rightarrow \begin{cases} a = -\gamma \\ a = 1 \end{cases}$

$f(x) = \begin{cases} x^2 - b & |x+1| \geq 2 \\ a + \gamma x & -3 \leq x \leq -1 \end{cases}$ $x = 2$ $11 - b = a - 9$
 $a + b = 20$

ا) $y = \frac{1}{x^3 - \epsilon x^2}$ $x^3 - \epsilon x^2 \neq 0$ $x^2(x - \epsilon) \neq 0$
 $D_f = \mathbb{R} - \{0, \epsilon\}$ $\frac{\epsilon}{-1 - 1 +}$

ب) $y = \frac{1}{x^3 + \epsilon x^2 + \gamma x + \epsilon}$ $\neq 0$ $D_f = \mathbb{R}$

ج) $y = \frac{\sqrt{\epsilon - x}}{\sqrt{\epsilon x - x^2}}$ $\frac{1}{+1 -}$
 $\epsilon - x = 0 \Rightarrow x = \epsilon$
 $\epsilon x - x^2 = 0 \Rightarrow x = \epsilon$
 $x = 1$ $\frac{1}{+1 -}$
 $D_f = [\frac{1}{\epsilon}, \epsilon]$

$(\gamma$

$$\begin{array}{l} \text{red} \\ \sim \\ b - 4 = 0 \\ b = 4 \end{array}$$