

17.31

Θα χρησιμοποιήσουμε την ταυτότητα $\sin^2 x = \frac{1}{1 + \cot^2 x}$

$$\text{Άρα έχουμε : } \frac{1}{\sin^2 x} - \sqrt{3} \cot x = 1 \Rightarrow \frac{1}{\frac{1}{1 + \cot^2 x}} - \sqrt{3} \cot x = 1 \Rightarrow$$

$$\Rightarrow 1 + \cot^2 x - \sqrt{3} \cot x = 1 \Rightarrow \cot^2 x - \sqrt{3} \cot x = 0 \Rightarrow \cot x (\cot x - \sqrt{3}) = 0 \Rightarrow$$

$$\cot x = 0$$

$$\Rightarrow \cot x = \cot \pi$$

$$\Rightarrow x = \kappa\pi + \pi, \quad \kappa \in \mathbb{Z}$$

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$$\cot x = \sqrt{3}$$

$$\Rightarrow \cot x = \cot \frac{\pi}{3}$$

$$\Rightarrow x = \kappa\pi + \frac{\pi}{3}, \quad \kappa \in \mathbb{Z}$$