

Mathematics

(www.tiwariacademy.in)

(Chapter 2)(Inverse Trigonometric Functions)

(Class XII)

(Exemplar Problems)

Objective Type Questions

Fill in the blank in the following:

Question 42:

The principal value of $\tan^{-1}\sqrt{3}$ is _____.

Answer 42:

Given that: $\tan^{-1}\sqrt{3}$

Now, we have

$$\tan^{-1}\sqrt{3} = \tan^{-1}\left(\tan\frac{\pi}{3}\right) = \frac{\pi}{3} \quad \left[\because \tan^{-1}(\tan x) = x \text{ if } x \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)\right]$$

So, the principal value of $\tan^{-1}\sqrt{3}$ is $\frac{\pi}{3}$.

