

Mathematics

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(Chapter 2)(Inverse Trigonometric Functions)

(Class XII)

(Exemplar Problems)

Objective Type Questions

Choose the correct answers from the given four options in the following (MCQ):

Question 21:

Which of the following is the principal value branch of $\operatorname{cosec}^{-1}x$?

(A) $\left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$

(B) $[0, \pi] - \left\{\frac{\pi}{2}\right\}$

(C) $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$

(D) $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right] - \{0\}$

Answer 21:

(D) $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right] - \{0\}$

Solution:

As we know that the principal value branch of $\operatorname{cosec}^{-1}x$ is $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right] - \{0\}$.

Hence, the option (D) is correct.

