Hyperbola - Class XI

Related Questions with Solutions

Questions

Quetion: 01

The eccentricity of the hyperbola $x^2 - y^2 = 2004$ is

A. $\sqrt{3}$

B. 2

C. $2\sqrt{2}$

D. $\sqrt{2}$

Solutions

Solution: 01

Given equation of hyperbola is $x^2 - y^2 = 2004$.

or $\frac{x^2}{(\sqrt{2004})^2} - \frac{y^2}{(\sqrt{2004})^2} = 1$

$\therefore \quad a = \sqrt{2004}$ and $b = \sqrt{2004}$

Since $e^2 = 1 + \frac{b^2}{a^2}, e^2 = 1 + \frac{2004}{2004} = 1 + 1 = 2 \therefore e = \sqrt{2}$

Correct Options

Answer:01

Correct Options: D