

Coordinate Geometry

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10th Maths - Chapter 7

This is Problem-4 from Exercise 7.1

1. Check whether $(5, -2)$, $(6, 4)$ and $(7, -2)$ are the vertices of an isosceles triangle.

Solution: :

By distance formula

$$\begin{aligned}AB &= \sqrt{(5-6)^2 + (-2-4)^2} = \sqrt{(-1)^2 + (-6)^2} = \sqrt{37} \\BC &= \sqrt{(6-7)^2 + (4-(-2))^2} = \sqrt{(-1)^2 + (6)^2} = \sqrt{37} \\CA &= \sqrt{(7-5)^2 + (-2-(-2))^2} = \sqrt{(2)^2 + 0} = 2\end{aligned}$$

$$\text{Since } AB = BC = \sqrt{37}$$