

Coordinate Geometry

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August 7, 2023

Class 10th Maths - Chapter 7

This is Problem-1(ii) from Exercise 7.3

1. Find the area of the triangle whose vertices are:

$$(-5, -1), (3, -5), (5, 2) \quad (1)$$

Solution:

Given Data:

$$A = \begin{pmatrix} -5 \\ -1 \end{pmatrix} \quad (2)$$

$$B = \begin{pmatrix} 3 \\ -5 \end{pmatrix} \quad (3)$$

$$C = \begin{pmatrix} 5 \\ 2 \end{pmatrix} \quad (4)$$

(5)

$$\mathbf{AB} = \begin{pmatrix} 8 \\ -4 \end{pmatrix} \quad (6)$$

$$\mathbf{BC} = \begin{pmatrix} 2 \\ 7 \end{pmatrix} \quad (7)$$

(8)

AREA OF THE TRIANGLE:

(9)

$$= \frac{1}{2} | (AB) \times (BC) | \quad (10)$$

(11)

$$= \frac{1}{2} \begin{vmatrix} 8 & 2 \\ -4 & 7 \end{vmatrix} \quad (12)$$

(13)

$$= \frac{1}{2} | 56 + 8 | \quad (14)$$

(15)

$$= \frac{1}{2} | 64 | \quad (16)$$

(17)

$$= 32sq.units \quad (18)$$