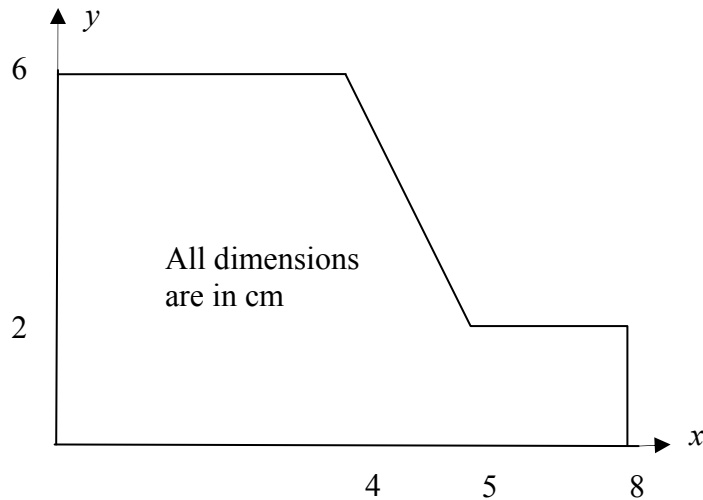


QUESTION

The $x-y$ coordinates in cm of the centroid of the area given below most nearly is

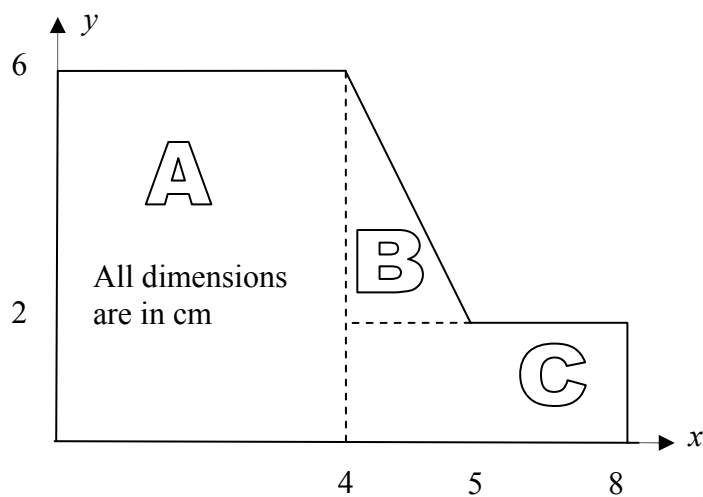
- (A) (3.098,2.549)
- (B) (3.078,2.549)
- (C) (3.078,2.627)
- (D) (3.098,2.627)



HINT

Divide the shape into three regions – Regions A, B and C. Let us find the centroid of each of these regions.

SOLUTION



Divide the shape into three regions – Regions A, B and C. Find the centroid of each of

these regions.

To calculate the coordinates of the centroid of the whole geometry

$$x = \frac{\sum_{i=A,B,C} x_i A_i}{\sum_{i=A,B,C} A_i}$$
$$= \frac{x_A A_A + x_B A_B + x_C A_C}{A_A + A_B + A_C}$$

$$y = \frac{\sum_{i=A,B,C} y_i A_i}{\sum_{i=A,B,C} A_i}$$
$$= \frac{y_A A_A + y_B A_B + y_C A_C}{A_A + A_B + A_C}$$

ANSWER

(B)

CONTRIBUTOR

This question of the day was provided by the courtesy of Professor Autar Kaw of the University of South Florida from the book Fundamentals of Engineering Examination Sample Questions General Engineering.