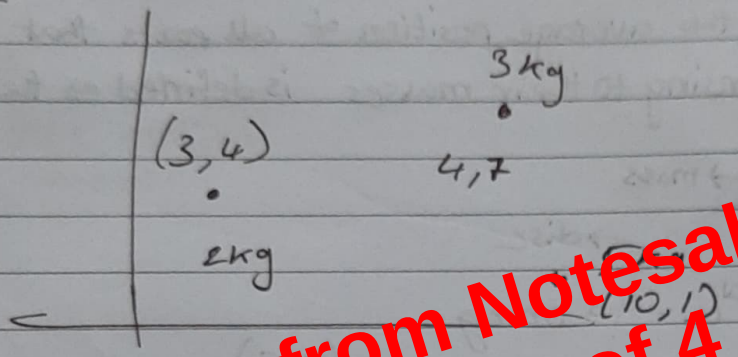
$$y_{cm} = \frac{m_1 y_1 + m_2 y_2 + m_3 y_3}{m_1 + m_2 + m_3}$$

$$z_{cm} = \frac{m_1 z_1 + m_2 z_2 + m_3 z_3}{m_1 + m_2 + m_3}$$

Example



$$x_{cm} = \frac{2 \times 3 + 3 \times 4 + 5 \times 10}{2+3+5}$$

$$= \frac{68}{10}$$

$$y_{cm} = \frac{2 \times 4 + 3 \times 7 + 5 \times 1}{2+3+5} = \frac{8+21+5}{10} = \frac{34}{10}$$

$$COM = \left(\frac{68}{10}, \frac{34}{10}\right) \qquad \boxed{z_{cm} = 0}$$

$$= \left(\frac{68}{10}, \frac{34}{10}, 0\right)$$