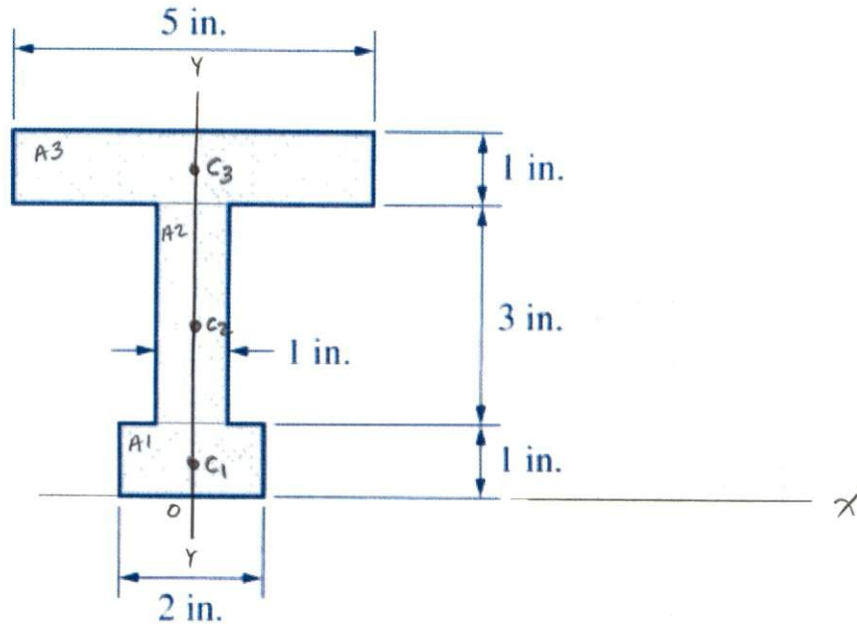


8-16.
Solution.



$C_1(0, 0.5)$
 $C_2(0, 2.5)$
 $C_3(0, 4.5)$

Step 1. Find \bar{y}

Shape	Area (in ²)	y (in)	Ay (in ³)	$(\bar{y}-y)_{(in)}^2$	$A(\bar{y}-y)_{(in)}^2$	I (in ⁴)
A1	$2 \times 1 = 2$	0.5	1	$2.6^2 = 6.76$	13.52	$\frac{2(1)^3}{12} = 0.167$
A2	$1 \times 3 = 3$	2.5	7.5	$0.6^2 = 0.36$	1.08	$\frac{1(3)^3}{12} = 2.25$
A3	$5 \times 1 = 5$	4.5	22.5	$-1.4^2 = 1.96$	9.8	$\frac{5(1)^3}{12} = 0.4167$
Σ	10		$\Sigma 31$		$\Sigma 24.4$	2.83

$$\bar{y} = \frac{\Sigma Ay}{\Sigma A} = \frac{31 \text{ in}^3}{10 \text{ in}^2} = 3.1 \text{ in}$$

$$\bar{I}_x = \Sigma I + \Sigma A(\bar{y}-y)^2$$

$$= 2.83 \text{ in}^4 + 24.4 \text{ in}^4$$

$$= 27.23 \text{ in}^4$$