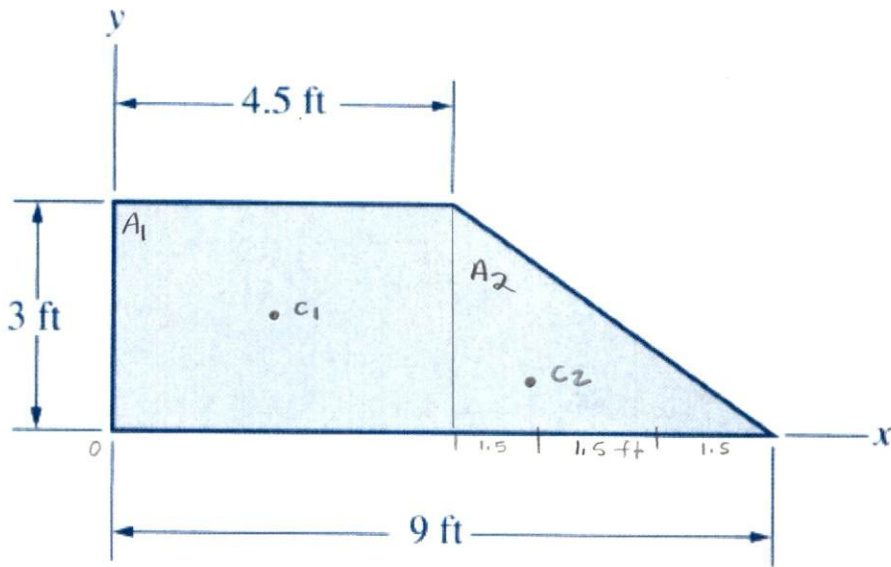


7-12 to 7-21 Locate the centroid of each plane area shown in Figs. P7-12 to P7-21.

7-12.

Solution.



Shape	Area (ft^2)	\bar{x} (ft)	$A\bar{x}$ (ft^3)	\bar{y} (ft)	$A\bar{y}$ (ft^3)
A_1	13.5	2.25	30.375	1.5	20.25
A_2	6.75	6.0	40.5	1.0	6.75
Σ	20.25		70.875		27.00

$$\bar{x} = \frac{\Sigma A\bar{x}}{\Sigma A} = \frac{70.875 \text{ ft}^3}{20.25 \text{ ft}^2} = 3.5 \text{ ft}$$

$$\bar{y} = \frac{\Sigma A\bar{y}}{\Sigma A} = \frac{27.00 \text{ ft}^3}{20.25 \text{ ft}^2} = 1.33 \text{ ft}$$