# Example 4

Locate the **centroid** of the cross-sectional area



$$\bar{x} = \frac{\sum \tilde{x}A}{\sum A} \qquad \bar{y} = \frac{\sum \tilde{y}A}{\sum A}$$

| | $\tilde{x}$ | $\tilde{y}$ | $A$ | $\tilde{x}A$ | $\tilde{y}A$ |
|---|---|---|---|---|---|
| **1** | 0 | 150 | $300 \times 50 = 15000$ | 0 | $150 \times 15{,}000 = 2250000$ |
| **2** | 0 | 325 | $300 \times 50 = 15000$ | 0 | $325 \times 15000 = 4875000$ |
| | | $\Sigma$ | **30000** | **0** | **7125000** |

$$\bar{y} = \frac{7125000}{30000} = 237.5 mm$$