

Example 6

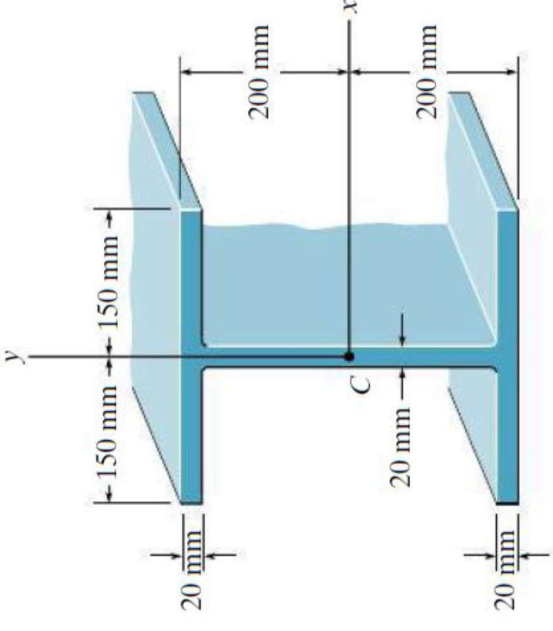
Determine the moment of inertia of the composite area about the x-axis
Determine the moment of inertia of the composite area about the y-axis

$$I_x = \bar{I}_x + Ad^2_y$$

$$\bar{I}_x = \frac{1}{12}bh^3$$

$$d_y = 190 \quad I_x = \frac{1}{12}300(20)^3 + (300 \times 20)(190)^2 = 216.8 \times 10^6 mm^4$$

$$d_y = 0 \quad I_x = \frac{1}{12}20(360)^3 = 77.76 \times 10^6 mm^4$$



$$\sum I_x = 2 \times 216.8 \times 10^6 + 77.76 \times 10^6$$

$$\sum I_x = 511.36 \times 10^6 mm^4$$