Prob. 1 (7.103)

Two cables of the same diameter are attached to a transmission tower at B. Since the tower is slender, the horizontal component of the resultant of the forces exerted by the cables at B is to be zero. Knowing that the mass per unit length of the cables is 0.4 kg/m, determine (a) the required sag \( h \), (b) the maximum tension in each cable.

Prob. 2 (9.11)

Determine by direct integration the moment of inertia of the shaded area with respect to the \( x \) axis.

Prob. 3 (9.31)

Determine the moment of inertia and the radius of gyration of the shaded area with respect to the \( x \) axis.

Prob. 4 (9.55)

Two L127 \( \times \) 76 \( \times \) 12.7-mm angles are welded to a 10-mm steel plate. Determine the distance \( b \) and the centroidal moments of inertia \( \bar{I}_x \) and \( \bar{I}_y \) of the combined section knowing that \( \bar{I}_y = 3\bar{I}_x \).