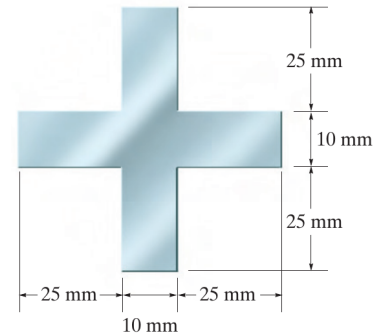


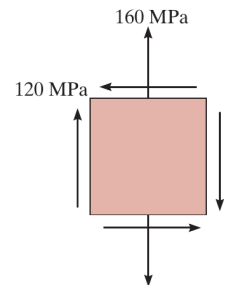
ENG104: Mechanics of Materials

ENG104, HW # 6, Due Friday 06Jun2025 by midnight, on canvas

1. An A-36 steel column has a length of 4 m and is pinned at both ends. If the cross-sectional area has the dimensions shown, determine the critical load.



2. The state of stress at a point is shown on the element. Determine (a) the principal stresses and (b) the maximum in-plane shear stress and average normal stress at the point. Specify the orientation of the element in each case and show the results on each element.



SOLUTION

In accordance to the established sign Convention,