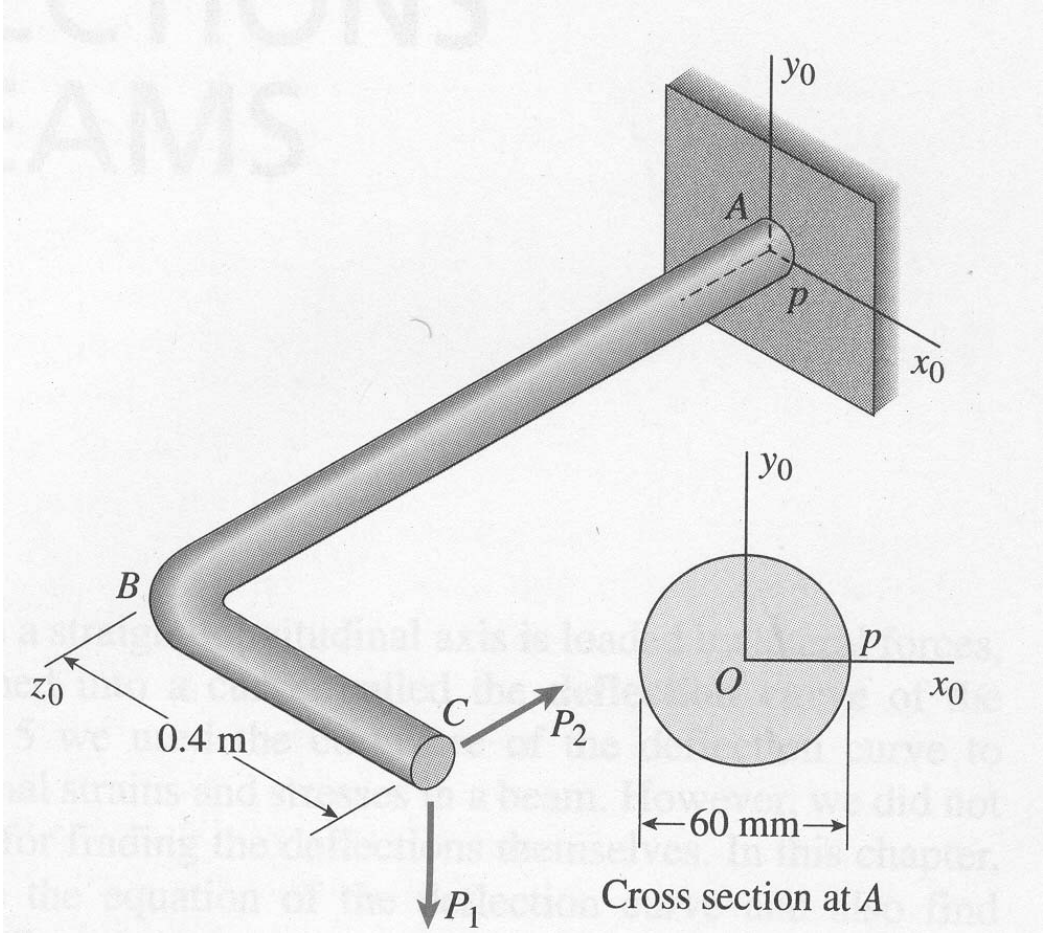

A horizontal bracket ABC consists of two perpendicular arms AB and BC, the latter having a length of 0.4m. Arm AB has a solid circular cross section with diameter equal to 60mm. At point C a load P_1=2.02 kN acts vertically and a load P_2 =3.07 kN acts horizontally and parallel to arm AB. Considering only the forces P_1 and P_2, calculate the maximum tensile stress σ_t, the maximum compressive stress σ_c, and the maximum in-plane shear stress τ_{max} at point P, which is located at support A on the side of the bracket at mid-height.