1. A point on a thin plate is subjected to the two successive states of stress shown. Determine the resultant state of stress represented on the element oriented as shown on the right.
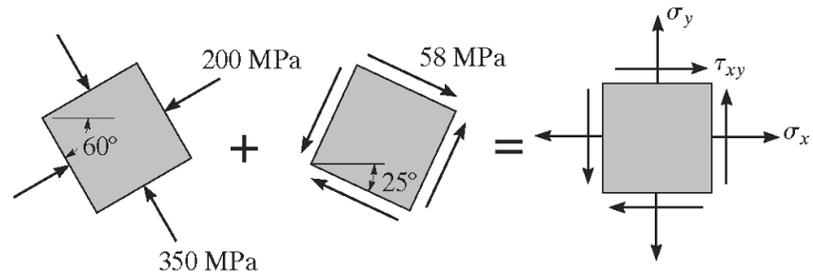
2. The state of stress at a point in a member is shown on the element. Determine the stress components acting on the inclined plane *AB*.
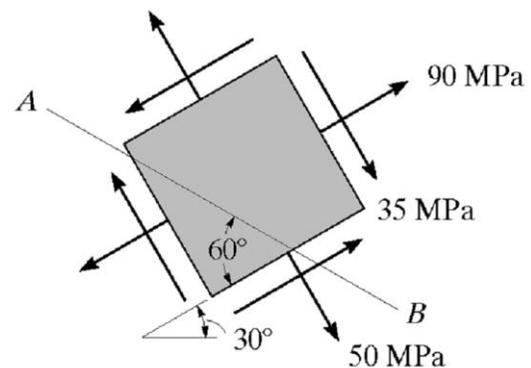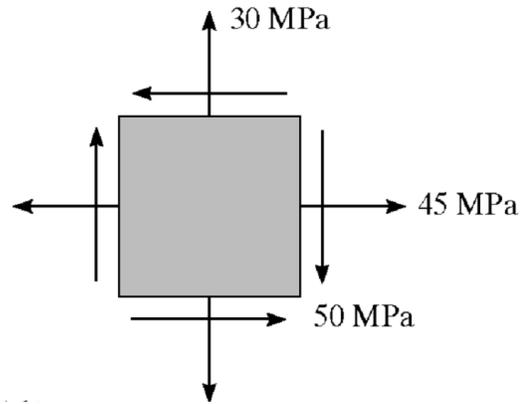
3. Determine (a) the principal stresses and (b) the maximum in-plane shear stress and average normal stress. Specify the orientation of the element in each case.

4. The stress at a point is shown on the element. Determine the principal stresses and the absolute maximum shear stress.