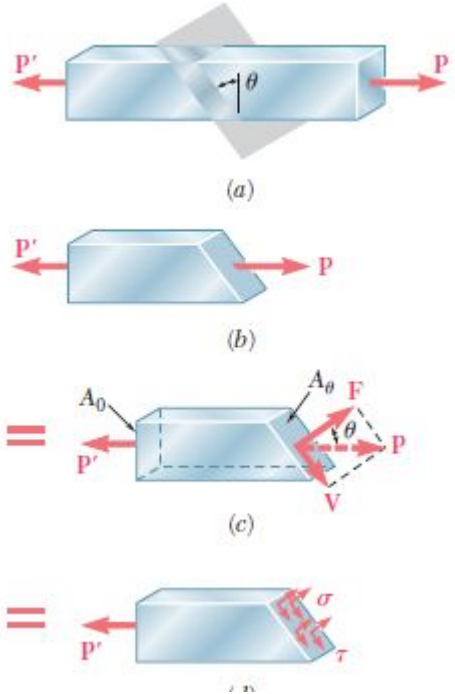
Introduction to Stress

Oblique plane and under general loading

Mechanics of Materials-Chapter 1

Normal & Shear Stress

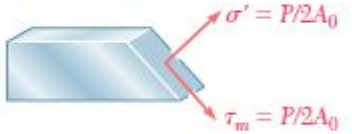


$$\sigma = P/A$$

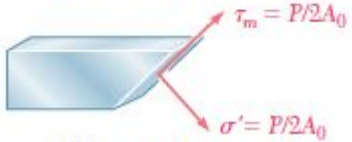
Maximum normal & shear Stress

(*a*) Axial loading

(*b*) Stresses for $\theta = 0$

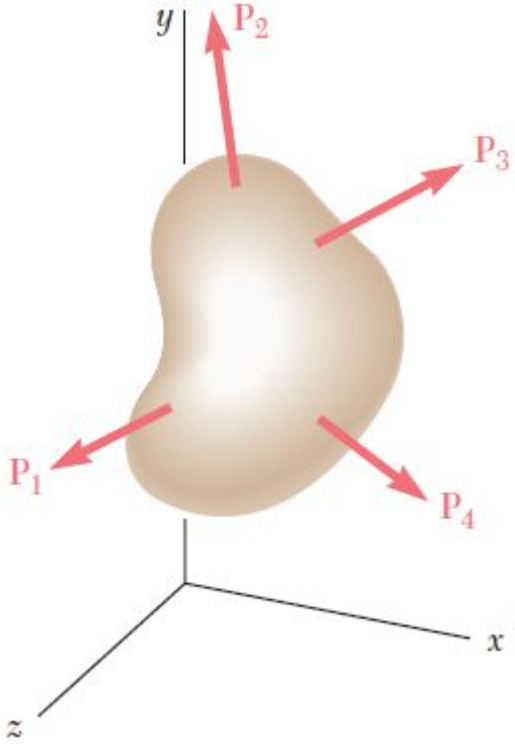


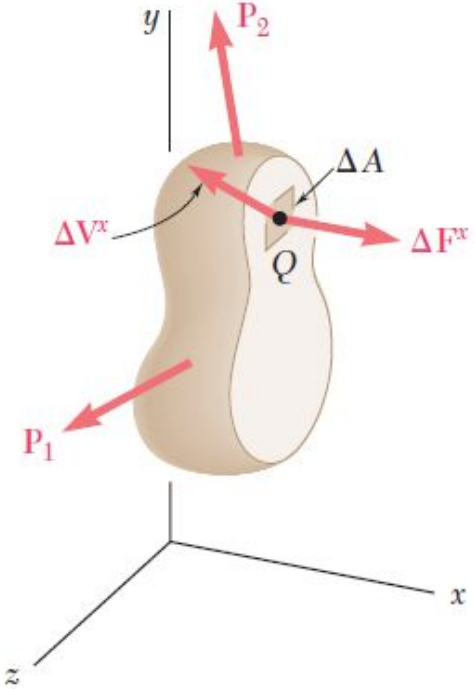
(*c*) Stresses for $\theta = 45°$

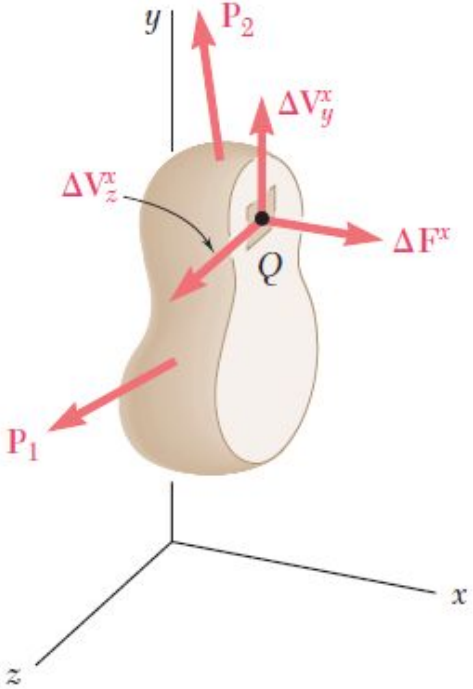


(*d*) Stresses for $\theta = -45°$

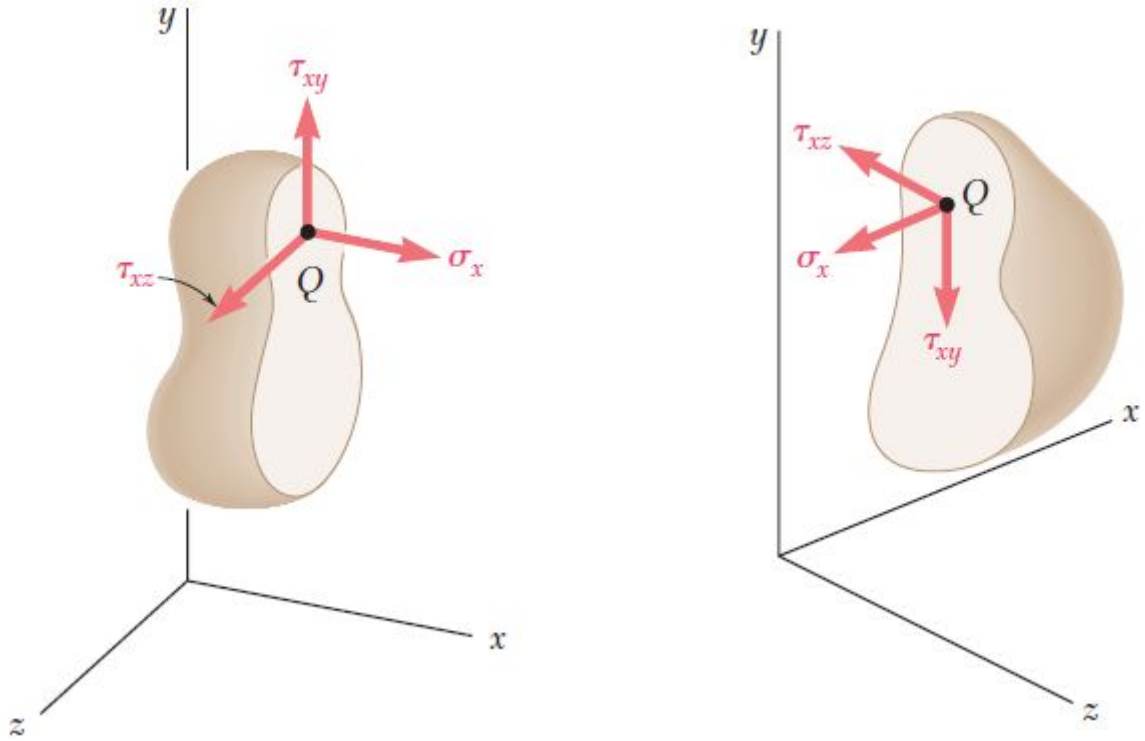
General Loading



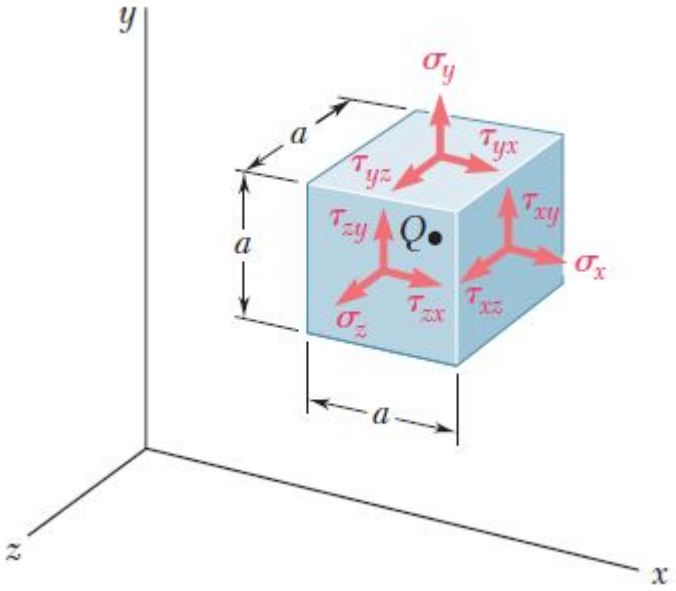


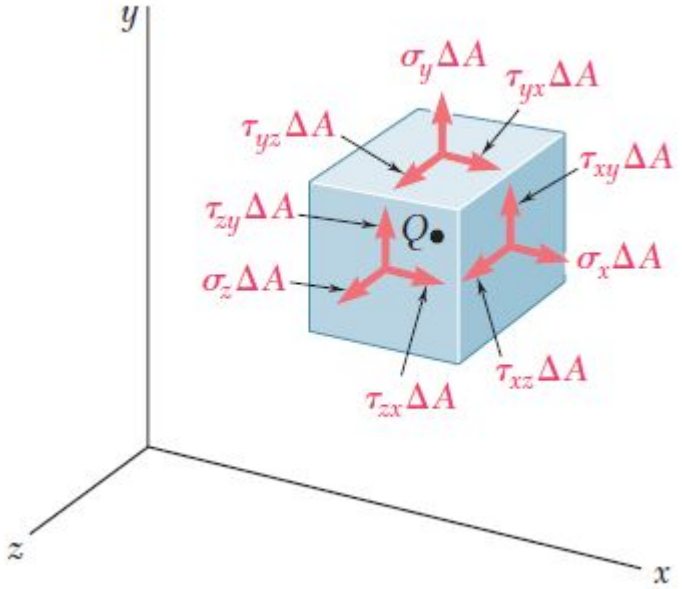


General loading

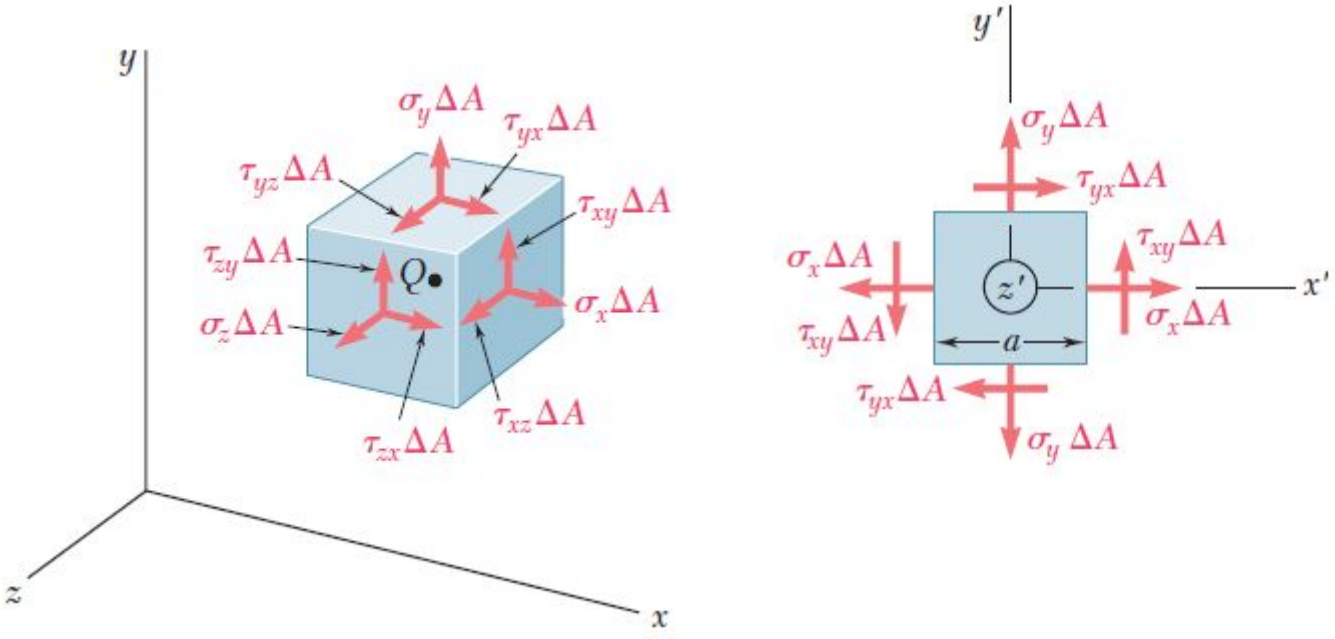


Stress tensor

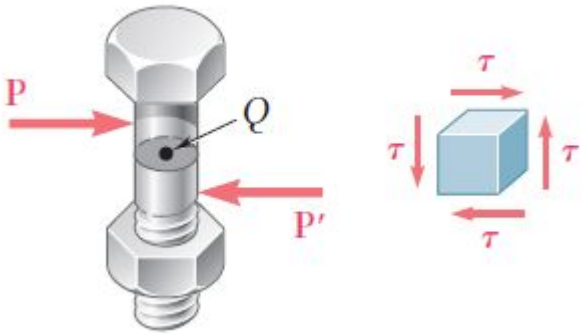




Stress tensor - Symmetry



Shear stress in a bolt



Concept of stress tensor is introduced