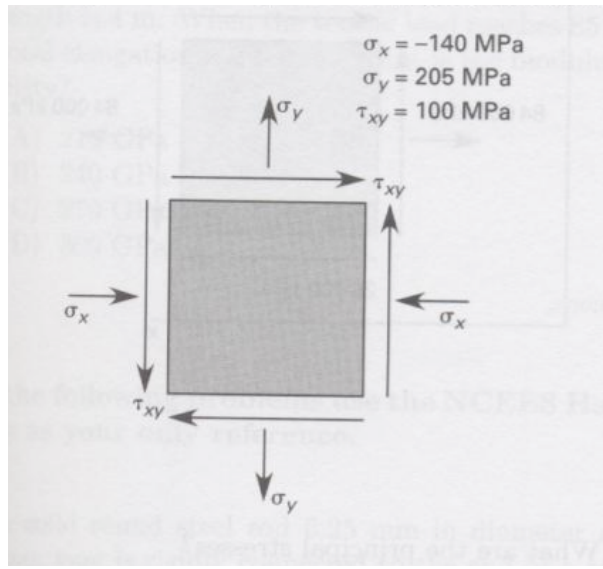
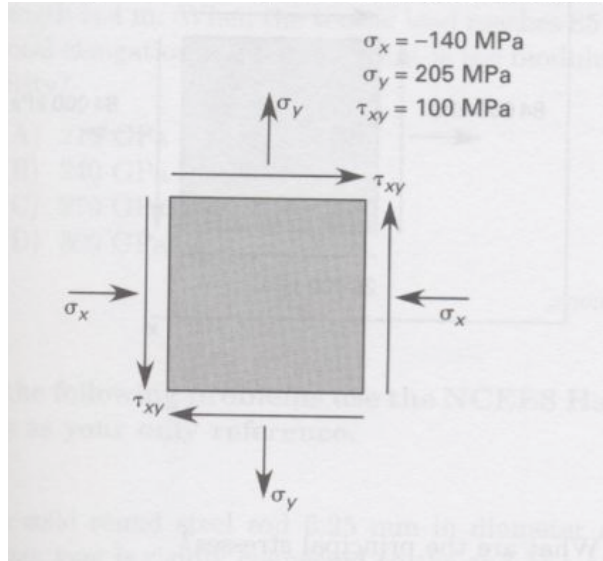


## Typical FE Problems that could use Mohr's Circle

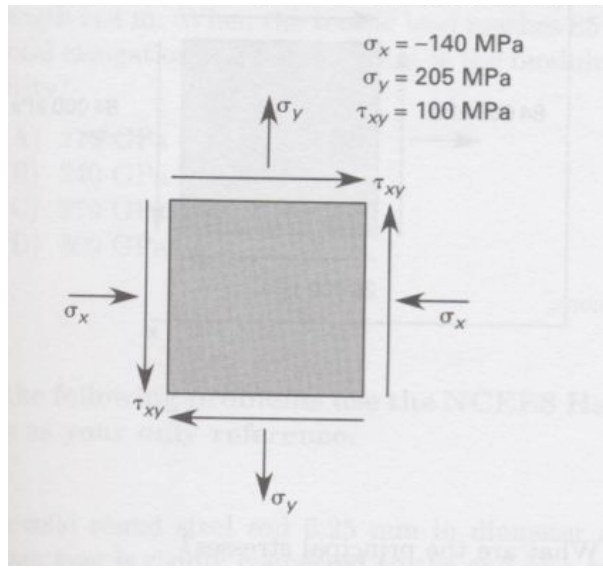
1. Calculate the maximum shearing stress at a point where  $\tau_{xy} = 10\text{MPa}$ ,  $\sigma_x = 40\text{MPa}$ , and  $\sigma_y = 50\text{MPa}$ .
  - (A) 46.1 MPa
  - (B) 36.5 MPa
  - (C) 23.2 MPa
  - (D) 11.2 MPa



2. A structural material is subjected to the plane stress conditions shown above. What is the maximum shear stress?
- (A) 100 MPa
  - (B) 160 MPa
  - (C) 200 MPa
  - (D) 210 Mpa



3. A structural material is subjected to the plane stress conditions shown above. What are the principal stresses?
- (A) 140 MPa; -210 MPa
  - (B) 200 MPa; -140 MPa
  - (C) 230 MPa; -200 MPa
  - (D) 230 MPa; -170 MPa



4. A structural material is subjected to the plane stress conditions shown above. What are orientations of the principal stress planes (relative to the x-axis)?
- (A)  $-75^\circ; 15^\circ$
  - (B)  $-35^\circ; 73^\circ$
  - (C)  $-27^\circ; 86^\circ$
  - (D)  $-15^\circ; 75^\circ$