COVER SHEET

• HW is to be turned in with the cover sheet filled out and signed.
• HW is due before class one week after it is handed out.
• Use the systematic solution technique presented in class.

I have completed this assignment on my own. I did not copy the solutions from anyone or any other source.

☐ I collaborated on this assignment with:

____________________   ____________________
____________________   ____________________
____________________   ____________________

☐ I looked at the solutions from other sources after I worked on the problem and made the necessary corrections.

Signature: _______________________

No member of this class shall take unfair advantage of any other member in this class.
1. A thin-walled pressure vessel of 60-mm radius and 4-mm thickness is made from spirally welded pipe and fitted with two rigid end plates (Fig. P1.38). The vessel is subjected to an internal pressure of $p = 2 \text{ MPa}$ and a $P = 50 \text{ kN}$ axial load. Calculate (a) the normal stress perpendicular to the weld; (b) the shearing stress parallel to the weld.

![Figure P1.38](image1.jpg)

2. A structural member is subjected to a set of forces and moments. Each separately produces the stress conditions at a point shown in Fig. P1.26. Determine the principal stresses and their orientations at the point under the effect of combined loading.

![Figure P1.26](image2.jpg)

**References:** Ugural and Fenster (2003)