

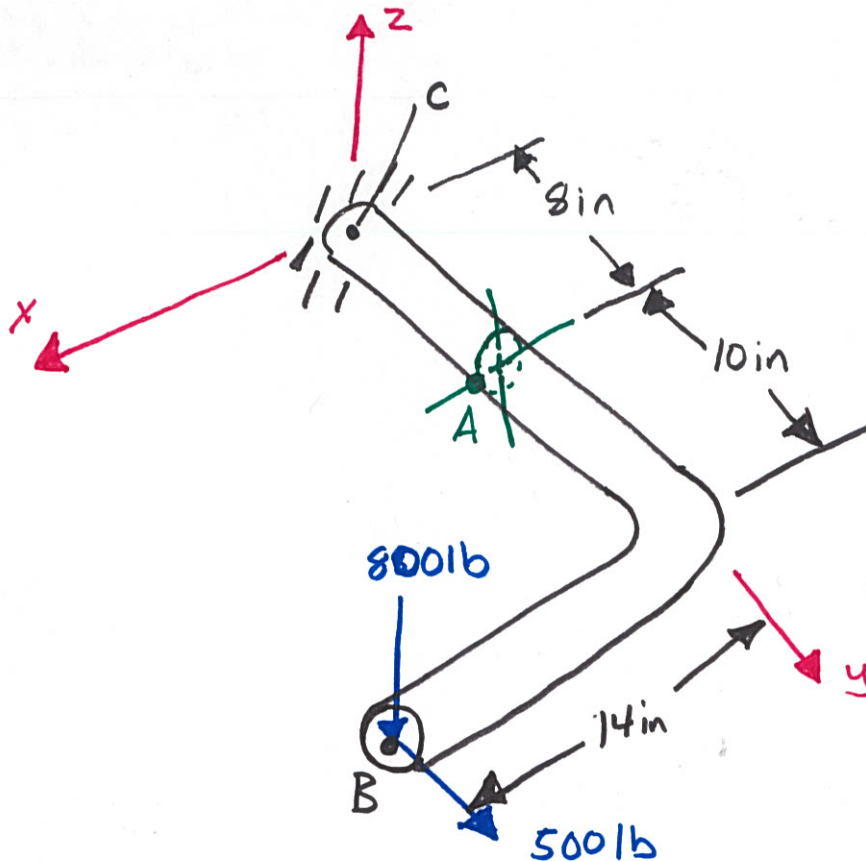
## EME 150A Fall 2015 Homework #02

**Date:** Monday, October 05, 2015

**DUE:** Monday, October 12, 2015 before class in Box D in the MAE department.

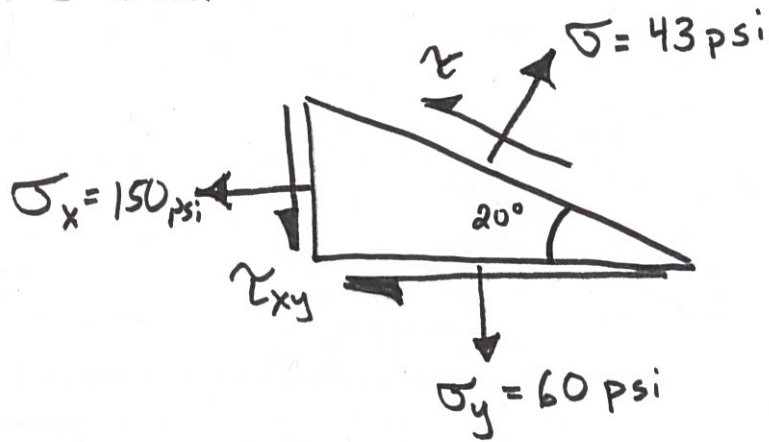
### Problem 1

The solid rod shown in the figure is subject to the two loads at point B. The rod has a radius of 0.75 in. Determine the state of stress at point A, sketch the stress cube, and write out the stress tensor with respect to the provided coordinate system.



### Problem 2

The normal stresses on three sides of a triangular element are as indicated. Find the shear stresses, the principal stresses, and the principal directions.



### Problem 3

The figure below shows the state of plane stress at a point. Draw the state of stress if the element is rotated counterclockwise  $40^\circ$  relative to the given position. Use Mohr's circle to do the rotation and show the diagram.

