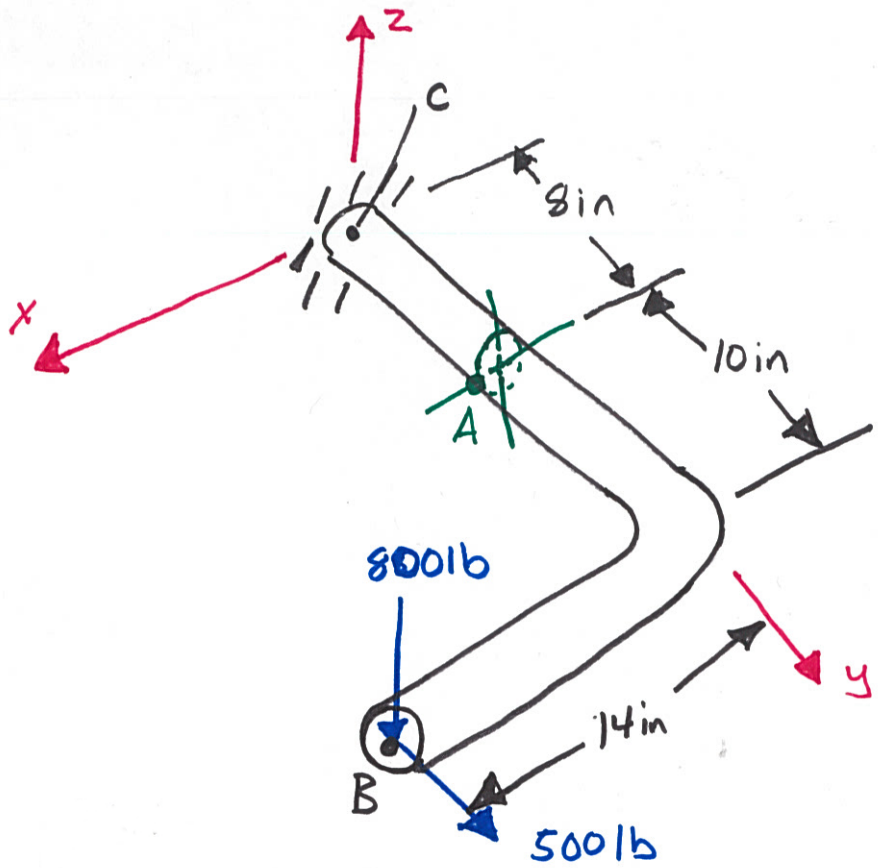
EME 150A Fall 2015 Homework #06

Date: Monday, November 09, 2015

DUE: Monday, November 16, 2015 before class in Box D in the MAE department.

Problem 1

Given the same problem from homework #2 where the rod radius is 0.75 in, determine the whether the rod will fail at point A under the given loading if the material is cold drawn 1018 carbon steel. If the rod will not fail report the factor of safety. Show results for both the maximum shear stress theory and the distortion energy theory.



Problem 2

Determine the safety factors at points A and B for the bracket shown below. It is made of ASTM Class 50 Cast Iron (Table A-24). The variables have the following values: l = 6in, a = 8 in, d = 1.5 in, F = 1000 lb.

Use the modified Mohr Theory.