School of Engineering
University of California, Merced

ME135 – Finite Element Analysis Lab.
Spring 2018

Assignment #3 due to Monday February 19,2017

A brass bar ($E = 110\ MPa$)of length $L = 2.5\ m$ has diameter $d_1 = 18\ mm$ over one-half of its length and diameter $d_2 = 12\ mm$ over the other half. Compare this nonprismatic bar to a prismatic bar of the same volume of material with constant diameter d and length L. The bar is under load $P = 25\ KN$. Using finite element analysis find the elongation.
(Hint: you can assume one of the ends is fixed)