University of California at Berkeley
College of Engineering
Department of Mechanical Engineering

ME102B, Fall 2018   **Liwei Lin**

Problem Set #3

Due October 22 (Monday)

Problem 1 (Gear Fundamentals)
A spur gear set has a module of 5 mm and a velocity ratio of 4. The pinion has 20 teeth. Find the number of teeth on the driven gear, the pitch diameter, and the theoretical center-to-center distance.

Problem 2 (Contact Ratio, Interference)
A gear system having velocity ratio of 4 is connected by spur gears and has a 4-inch in center distance. The diametral pitch P is to be 5 T/in and the pressure angle is 20 degrees
   (a) find the pitch radii and the number of teeth in the pinion and gear
   (b) find the contact ratio
   (c) determine if there will be interference