# Problem Set 10
Due April 9, 1999 by 5:00 p.m.

Professors Gray & Costanzo   Spring 1999

Problem 1

A drum of radius 80 mm is mounted on a cylinder of ra-
dius 100 mm. A cord is wound around the drum, and its
extremity D is pulled to the left with a constant velocity
of 120 mm/s, causing the cylinder to roll without sliding.
Determine (a) the angular velocity of the cylinder, (b)
the velocity of the center of the cylinder (c) the length
of cord which is wound or unwound per second.
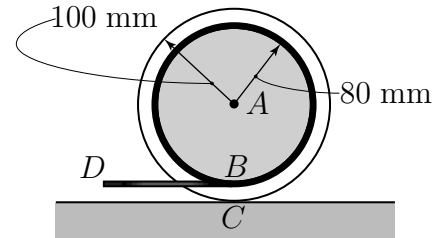
Problem 2

In the position shown, bar AB has a constant an-
gular velocity of 3 rads/s counterclockwise. De-
termine the angular velocity and the angular ac-
celeration of bars BD and DE.