CE 3305 Engineering Fluid Mechanics
Final Exam (Part 2)
Summer 2019 – GERMANY

1. Figure 1 is a schematic of wind blowing on a petroleum storage drum. Estimate the wind speed (in meters per second) needed to tip the drum over.

   The mass of the drum is 25 kilograms, the diameter is 55 centimeters, and the height is 90 centimeters.

   The density of air is $\rho = 1.23\ kg/m^3$
   The viscosity of air is $\nu = 1.46 \times 10^{-5}\ m^2/s$

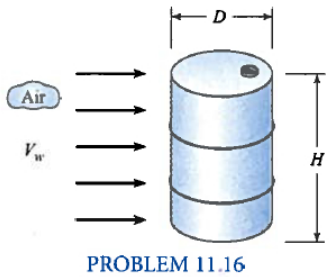

Figure 1: Wind blowing over a storage drum