**ME 556/I0200: HW #3 – Pipe Flow**

1. Consider a pipe of radius and length inclined by an angle as shown in the figure. The inlet pressure to the pipe and the outlet pressure is atmospheric. Determine the inlet pressure for which the flow is arrested.
2. Coaxial Poiseuille Flow**.** In arterial blood flow a plasma layer of viscosity flows adjacent to the arterial wall, while the axial core has viscosity

Assuming the pressure gradient is given by

where is the pressure difference of a section of length determine the

velocity profile in each region and the combined flow rate.