NAME

Fluids-ID

Quiz 4. Air flows steadily through the variable area pipe shown at the right. Determine the flow rate Q if viscous and compressibility effects are negligible.

- γ_{H2O} = 9.80 ×10³ N/m³
- γ_{air} = 12.0 N/m³ (Note that γ_{air} << γ_{H2O})
- Bernoulli equation:

$$\frac{p_1}{\gamma} + \frac{V_1^2}{2g} + z_1 = \frac{p_2}{\gamma} + \frac{V_2^2}{2g} + z_2$$