The Saylor Foundation's
ME 103 Assessment 1

Instructions: Please answer each of the following questions to the best of your ability.

Questions

1. What are the important features of a property?

2. Define 1 standard atmosphere (atm) in SI unit.

3. Determine the force needed to lift up an 1 kg object.

4. A U-tube manometer filled with mercury is used to measure the pressure drop of air flow in a pipe. Estimate the pressure drop if the manometer shows a deflection of 5 mm. The density of mercury is 13.6 10^3 kg/m^3.

5. What would be the change in the temperature of 1 kg of metal at the foot of a fall from an altitude of 5000 m above ground level, assuming that no energy is lost during the fall? The specific heat of the metal is 100 kJ/kg.

6. What are the common types of pressures that one often comes across?