

Prelab Questions

Lab1

Measurement of Kinematic Viscosity

(To be turned in at the beginning of the laboratory class period)

Short Answers (no more than one sentence)

1. Specify three quantities that will be measured or calculated in this laboratory.
2. What instrument is used to measure the diameters of Teflon and Steel spheres?
3. How are the precision limits for the individual variables are obtained?
4. What are the SI units for the dynamics viscosity and kinematic viscosity, respectively?
5. Sample calculations: Calculate the density of the fluid contained in the cylinder based on the following known quantities. (Hint: use the data reduction equation for the density of the fluid.)
For the Teflon sphere: diameter 6.35mm, fall time 24.36sec, and Teflon density 2148kg/m^3 .
For the steel sphere: diameter 3.59mm, fall time 9.31sec, and steel density 7991kg/m^3 .