CIVL 4046 Fluid Mechanics
Fall Semester 2010

Quiz No. 1

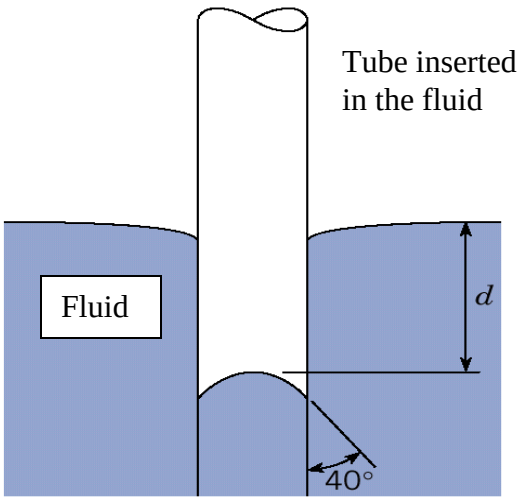
Name: **ID#:**

Total marks: 10 Time allowed: 30 minutes
Attempt all the questions.

1. Prove that the velocity gradient is equal to the *rate of shear strain* using a sketch. [2]

Answer:

2. What type of fluid would show the behavior shown in the following figure? Give an example. [2]



Answer:

3. Is it true that the *dynamic viscosity* decreases in case of gases and increases in case of liquids with the increase in temperature? Justify your answer? [2]

Answer:

5. A bucket having a diameter of 10cm is filled with kerosene oil (specific gravity =0.85) up to a depth of 1m. What depth of water will be needed to obtain the same weight as in case of kerosene oil? [2]

Answer:

6. Write down the types of fluids shown in the following figure considering the relationship between shear stress and the velocity gradient. [2]

Answer: