College of Engineering and Technology
Mechanical Engineering Department
Fluid Mechanics (ME 361)

Sheet 2

1- A diver is working at a depth of 18 m below the sea surface. Determine the absolute pressure at this depth if the specific weight of the sea water is 10000 N/m3.

2- Convert a pressure head of 15 m of water to meters of carbon tetra chloride with SG of 1.6.

3-The mercury manometer of figure (1) indicates a differential reading of 0.3 in when the pressure in pipe A is 30 mm Hg vaccum. Determine the pressure in pipe B.

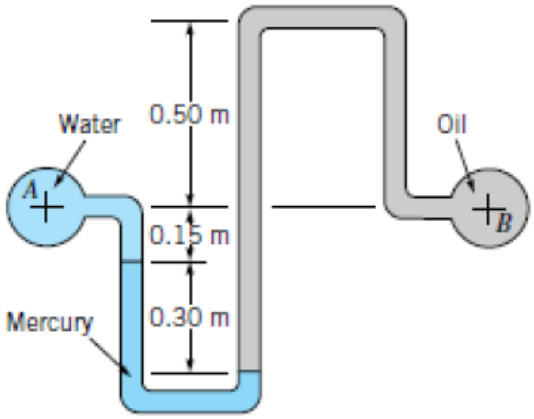

Figure 1\

4- For the inclined-tube manometer of figure (2) the pressure in pipe A is 551.5 KPa. The fluid in both pipes A and B is water and the gauge fluid in the manometer has a specific gravity of 2.6.What is the pressure in pipe B corresponding to the differential reading shown?

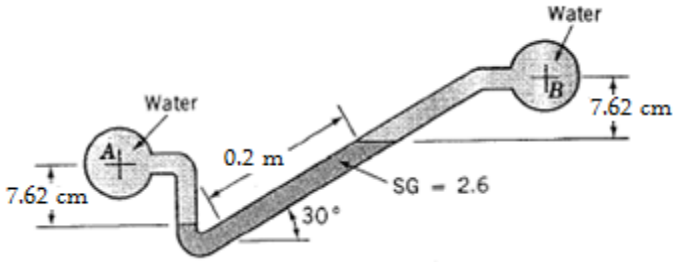

Figure 2

5- An inverted differential manometer containing an oil of specific gravity 0.8 is connected to find the difference of pressures at two points of a pipe as in figure (3). Find the difference of pressures, if the manometer reading be 0.3 m.

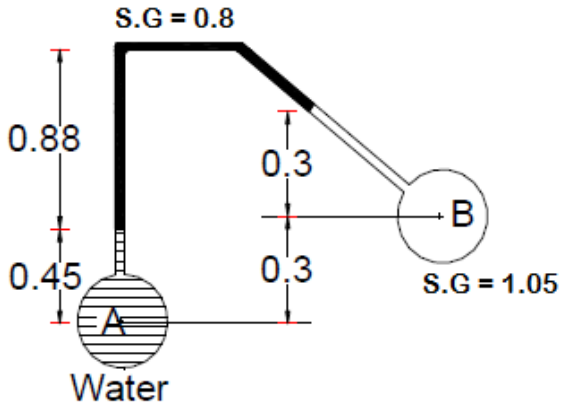

Figure 3

6- A manometer connects an oil pipeline and a water pipeline as shown in figure (4) Determine the difference in pressure between the two pipelines using the readings on the manometer. Use SGoil = 0.86 and SGHg = 13.6.

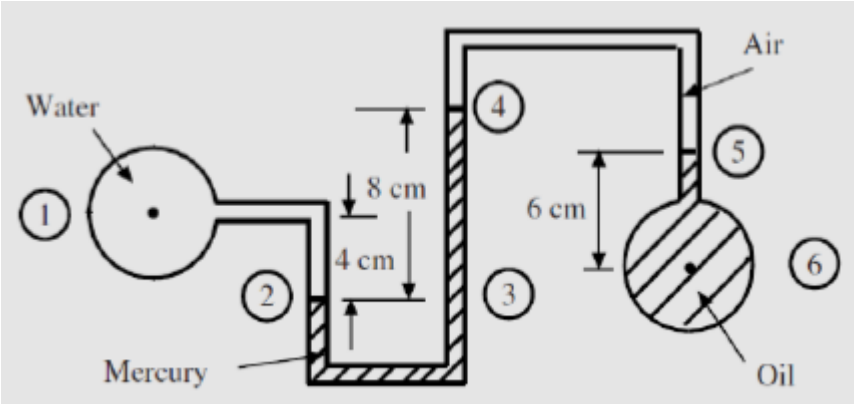

Figure 4