REVISION ASSIGNMENT

1. Calculate the pressure produced by a force of 550 N acting on an area of 2.0 m^2

2. The pressure of a gas contained in a cylinder with a movable piston is 200 Pa. The area of the piston is 0.8 m^2. Calculate the force that is exerted on the piston.

3. A swimming pool of width 9.0 m and length 24.0 m is filled with water to a depth of 5.0 m. Calculate pressure on the bottom of the pool due to the water.

4. What is the pressure on the side wall of the pool at the junction with the bottom of the pool in the previous problem?

5. What is the total force on the bottom of the pool due to the water in the problem 3?

6. The pressure of a gas in a cylinder with a movable piston is increased from 80.0 kPa to 120.0 kPa while the temperature of the gas is held constant. If the original volume of the gas in the cylinder was 0.8 m^3 determine the final volume of the gas after the pressure is increased

7. A block of wood of mass 5.5 kg floats in water. Calculate the buoyant force on the block.

8. A floating object displaces 0.9 m^3 of water. Calculate the buoyant force on the object and the weight of the object.

9. A pipe of cross sectional area 40 cm^2 has a constriction where the area is reduced to 20 cm^2. If the velocity of the fluid in the larger area is 0.5 m / s what is the velocity of the fluid in the constricted region?

10. The pipe in the previous problem is horizontal. If the pressure in the larger area region is measured as 30 kPa what is the pressure in the constricted region?

11. A body weighs 50 N in air and when immersed in water it weighs only 40 N. Find its relative density.