

These are the notes for the tutorial session #8. The topics includes the chapter 11 of the textbook, namely, statics and dynamics of the fluids. Some of the problems which are a bit more advanced will be marked with an asterisk (*). It means that solving them might not help you on the quiz or the exams, but it's fun to think about these problems.

If you haven't gotten any email from me, please stay around after class so that I can get an email address from you.

The textbook is the 9th edition of Physics by Cutnell and Johnson. The numbers are almost the same as 10th edition.

Keywords: Fluids, Pressure, Pascal, Archimedes's Principle, Continuity, Bernoulli's Equation, Viscosity.

1) 11.4, 6, or 9 from the textbook

Neutron stars, helium filled sphere, or iron planet

2) 11.16 or 18 from the textbook

The pressure each ski exerts on the snow or the cylinder with the piston in it

3) 11.25, 30, 31, or 32 from the textbook

The human lungs, mercury and water, reservoir dam, the house's roof

4) 11.38 or 39 from the textbook

The hydraulic chamber or the break system of the car

5) 11.42, 44, 49, 50, 51, or 53 from the textbook

The hydrometer, the paperweight, the hollow cubical box, the rock specimen, the solid cylinder in oil and water, or the glass shaped as a hollow spherical shell

6) 11.54, 58, 59, 60 from the textbook

The fuel pump, the open faucet, the number of capillaries, the three fire hoses

7) 11.63, 69, 75, or 76 from the textbook

The airplane wing, the Venturi meter, the uniform rectangular plate, or the two circular hole on the wall of a tank

8) 11.83 from the textbook

The Y-connector

9) 11.104 from the textbook

The siphon