

Chapter 5 HW

Review Questions: 6, 7, 9, 17, 25, 27

Exercises: 7, 10, 17, 31, 33

Problems: 4, 6, 9

Additional:

A. Why do you float higher in salt water than in fresh water?

B. A solid raft made of pine wood (Density = 550 kg/m^3) measures 4.0 meters on each side and is 0.30 meters thick. The raft is floating in water ($D = 1000 \text{ kg/m}^3$).

- a) Determine the weight of the raft in Newtons.
- b) What is the buoyancy force on the floating raft?
- c) Calculate the height of the water line on the raft.

Bonus Question (2 points possible):

How much weight can be added to the raft before it sinks just below the water?