

Physics 203 Summer 2015

Quiz 7

06/24/2015

Name:

1. A brass block with mass 0.5 kg and density  $8000 \text{ kg/m}^3$  is suspended from a string. What is the tension in the string if the block is  $\frac{3}{4}$  immersed in water (density =  $1000 \text{ kg/m}^3$ )?

2. A block of ice has a volume of  $5 \text{ m}^3$ . The temperature of the block is  $-10 \text{ }^\circ\text{C}$ . The density of ice is  $917 \text{ kg/m}^3$ . How much water at  $27 \text{ }^\circ\text{C}$  is required to melt this ice? (Water:  $c = 4186 \text{ J/(kg }^\circ\text{C)}$ . Ice:  $c = 2000 \text{ J/(kg }^\circ\text{C)}$ . Heat of fusion:  $L = 3.35 * 10^5 \text{ J/kg}$ .)