Physics C. 3 Practice Problems

1. A substance has a specific gravity of 1.35. What is its density in

1. g/cm3

b. kg/m3

2. What is the specific gravity if the density of a certain rock is

a. 900 kg/m3?

1. 1.7 g/cm3?

3. Determine the weight of an object with a mass of

1. 3.50 kg
2. 575 g
3. 0.750 kg
4. 0.820 g

4. Determine the mass of an object with a weight of

1. 245 N
2. 9.35 N
3. 0.500 N
4. A spring has a proportionality constant of 2.50 N/cm. If the spring stretches

7.00 cm, what weight is attached?

1. A spring has a proportionality constant of 5.0 N/cm. If a 12.5 N weight is attached to the spring, what is the elongation?
2. What is the mass in kilograms of the water filling a tank 75. 5cm long, 0.500 m wide and 3.00 m high?
3. What is the mass in kilograms of the water filling a tank 1.50 m long, 75.0 cm wide and 2.00 m high?
4. The density of a metal is 3.00 g/cm3. What is the mass of a slab of the metal 10.0 cm long, 0.500 m wide and 15.5 cm high?
5. The density of a substance is 750. kg/m3. What is the mass of a block of the substance 2.25 m long, 1.75 m wide and 85.0 cm high?
6. The specific gravity of a substance is 0.45. What is the volume of one kilogram of the substance?
7. The specific gravity of a substance is 1.72. What is the volume of one kilogram of the substance?