Challenge 1

1. (3 pts) How many cubic centimeters of ore containing 0.22% gold must be processed to obtain $100 worth of gold? The density of the ore is 8.0 g/cm$^3$ and the price of gold is $418 per troy ounce. 14.6 troy oz. = 1.0 ordinary pound called an avoirdupois pound, and 1 lb = 454 g.

2. (3 pts) Geologists in the field use mineral oil (density = 1.75 g/cm$^3$) to determine the density of mineral samples using the buoyancy method. A sample of galena (an ore of lead) has a mass of 24.61 g in air and 18.83 g in mineral oil. Use this information to calculate the density of galena.