

## **Math 1030 #4b**

### **Solving Problems with Units Units in Real Life**

#### **EX 1:**

A city produces 500,000 cubic feet of garbage per week. If you stacked this garbage neatly on a 100 – yd by 60 – yd football field, how high would the garbage pile be?

## Density and Concentration

Material density -- mass per volume

Cork has a density of  $240 \text{ kg/m}^3$

Gold has a density of  $19,320 \text{ kg/m}^3$

Population density -- people per area

Utah has  $35.3\text{P}/\text{mi}^2$  DC has  $10,589\text{P}/\text{mi}^2$

Information density -- storage space per area

Concentration of air pollutant -- molecules of pollutant per million molecules of air (PPM)

44 PPM of Nitrates are allowable for standard drinking water.

Blood alcohol content (BAC) -- grams of alcohol per 100 ml of blood

### EX 2:

Eight ounces of hard liquor contains about 70 grams of alcohol. A 200 lb man (about 5500 ml of blood) quickly drinks 3 oz of hard liquor. If all the alcohol is immediately absorbed to his blood stream, what would his blood alcohol content be?