



mpg

Math 1030 #4b

ft/sec

Solving Problems with Units

Units in Real Life

ppm

\$/lb

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 kg/m^3

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

Population density -- people per area

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

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?