

*mpg*

# Math 1030 #4a

*ft/sec*

Solving Problems with Units

US vs Metric Units

*ppm*

*\$/lb*

What quantities do we measure and what units do we use?

	<u>Customary units</u>	<u>Metric system</u>
length & distance		
volume		
weight (mass)		

Here are a few commonly used conversions between Metric and USCS measurements:

$$1 \text{ in} \approx 2.540 \text{ cm}$$

$$1 \text{ oz} \approx 28.3495 \text{ g}$$

$$1 \text{ qt} \approx 0.9464 \text{ liter}$$

$$1 \text{ yd} \approx 0.9144 \text{ m}$$

$$1 \text{ lb} \approx 0.4536 \text{ kg}$$

$$1 \text{ mi} \approx 1.6093 \text{ km}$$

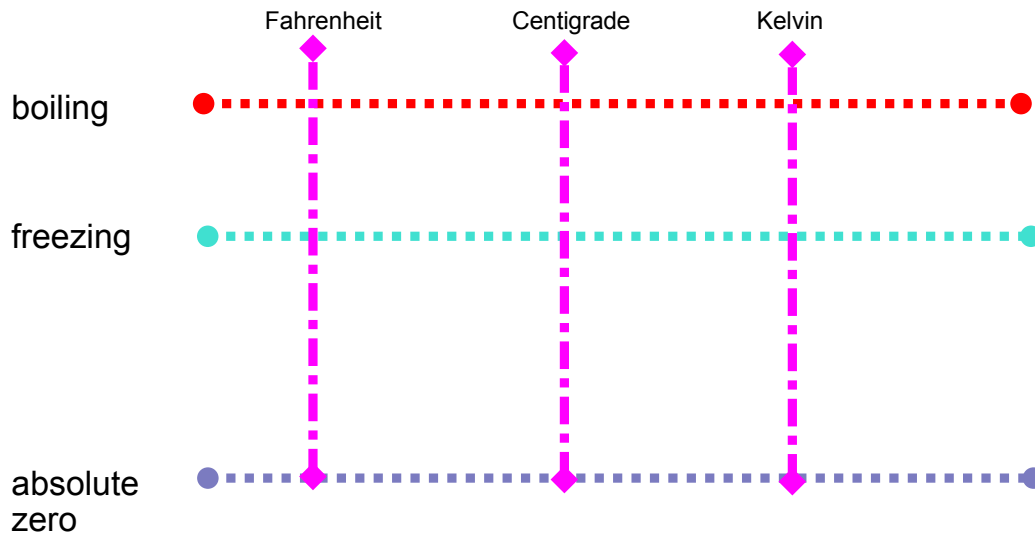
EX 1:

a) How many liters are in a 6-pack of 12-oz cans of pop?

b) If you go 100 km/hr in your Porsche, what is the speed in mph?

c) If water sells for \$2.00 per quart and soda sells for \$0.99 per 2-liter bottle, how much more expensive is water?

## Temperature



Formulas:

$$F = 1.8 C + 32 \quad \Leftrightarrow \quad C = \frac{F-32}{1.8} = \frac{5}{9}(F-32)$$

$$K = C + 273.5 \quad \Leftrightarrow \quad C = K - 273.5$$

EX 2:

a) Our normal body temperature is 98.6° F. What is this in Centigrade?

b) The average temperature of Madrid, Spain ranges from 0° C to 32° C. How do these compare with Salt Lake City (21° F to 91° F) which is close to the same latitude of 41°N?