Note Title 12/12/2006

Dimensional Analysis

Starting units $\longrightarrow$ ending units

Start $\times$ conversion fraction $=$ end

(ex) convert 120 seconds to minutes

120 sec. $\longrightarrow$ min.

60 sec = 1 min.

$$120 \text{ sec} \times \frac{1 \text{ min}}{60 \text{ sec}} = \boxed{2 \text{ min.}}$$

(ex.) Convert 22 oz to lbs.

22 oz → lb. 16 oz = 1 lb

$$22\,\text{oz} \times \frac{1\ \text{lb}}{16\ \text{oz}} = 1.375\ \text{lb}$$

(ex.) I'm 65 in tall, how many feet?

65 in $\longrightarrow$ ft 12 in = 1 ft

$$65\ \text{in} \times \frac{1\ \text{ft}}{12\ \text{in}} = \boxed{5.42\ \text{ft}}$$

Complex Problems w/ Rates

(Ex.) Convert 8 feet per day to inches per hour.

$$8 \frac{ft}{day} \longrightarrow \frac{in}{hr}$$

$$8 \frac{\cancel{ft}}{day} \times \frac{12 \text{ in}}{1 \cancel{ft}} = 96 \frac{in}{day}$$

$$96 \frac{in}{\cancel{day}} \times \frac{1 \cancel{day}}{24 \text{ hr}} = 4 \frac{in}{hr}$$