

4. The average American student is in class 330 minutes per day.

a. How many hours per day is this?

$$\frac{330 \text{ min}}{1} \cdot \frac{1 \text{ hr}}{60 \text{ min}} = 5.5 \text{ hr}$$

b. How many seconds per day is this?

$$\frac{330 \text{ min}}{1} \cdot \frac{60 \text{ sec}}{1 \text{ min}} = 19800 \text{ min}$$

5. How many seconds are there in one year?

$$\frac{1 \text{ yr}}{1} \cdot \frac{365 \text{ days}}{1 \text{ yr}} \cdot \frac{24 \text{ hrs}}{1 \text{ days}} \cdot \frac{60 \text{ min}}{1 \text{ hrs}} \cdot \frac{60 \text{ sec}}{1 \text{ min}} = 31536000 \text{ sec}$$

6. Sixty miles per hour is how many feet per second?

$$\frac{60 \text{ miles}}{1 \text{ hr}} \cdot \frac{5280 \text{ feet}}{1 \text{ miles}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} \cdot \frac{1 \text{ min}}{60 \text{ sec}} = \frac{316800}{3600} = 88 \frac{\text{ft.}}{\text{sec}}$$

7. How many minutes are in 180 days?

$$\frac{180 \text{ days}}{1} \cdot \frac{24 \text{ hrs}}{1 \text{ days}} \cdot \frac{60 \text{ min}}{1 \text{ hr}} = 259200 \text{ min}$$

8. If a person weighs 125 lbs 8 Oz, what is the weight in mg?

first, 8oz \rightarrow lbs

$$\frac{8 \text{ oz}}{1} \cdot \frac{1 \text{ lb}}{16 \text{ oz}} = \frac{1}{2}$$

so 125.5 pounds \rightarrow kg \rightarrow g \rightarrow mg

$$\frac{125.5 \text{ pounds}}{1} \cdot \frac{1 \text{ kg}}{2.2 \text{ pounds}} \cdot \frac{1000 \text{ g}}{1 \text{ kg}} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} = \frac{125500000}{2.2} = 57045454.5 \text{ mg}$$