

Name: _____ Section: _____

Dimensional Analysis - Scaffolding Activity

Directions - Use your knowledge of dimensional analysis to solve the following problems. It will be necessary for you to find the appropriate conversion factors.

1. Complete the following by inserting the appropriate numbers and then calculate the final answer.

$$\frac{(25 \text{ hours})}{(1)} \left(\frac{\text{_____ minutes}}{\text{_____ hour}} \right) =$$

$$\frac{(16 \text{ feet})}{(1)} \left(\frac{\text{_____ yard}}{\text{_____ feet}} \right) =$$

$$\frac{(15 \text{ gallons})}{(1)} \left(\frac{\text{_____ quarts}}{\text{_____ gallon}} \right) \left(\frac{\text{_____ pints}}{\text{_____ quart}} \right) =$$

$$\frac{(500 \text{ seconds})}{(1)} \left(\frac{\text{_____ minute}}{\text{_____ seconds}} \right) \left(\frac{\text{_____ hour}}{\text{_____ minutes}} \right) \left(\frac{\text{_____ day}}{\text{_____ hours}} \right) =$$

2. Complete the following by inserting the appropriate conversion factors and then calculate the final answer.

$$\begin{array}{c} \text{minutes} \rightarrow \text{hours} \\ \frac{(70 \text{ minutes})}{(1)} \left(\frac{\text{_____}}{\text{_____}} \right) = \end{array}$$

$$\begin{array}{c} \text{yards} \rightarrow \text{feet} \\ \frac{(7.6 \text{ yards})}{(1)} \left(\frac{\text{_____}}{\text{_____}} \right) = \end{array}$$

$$\frac{(360 \text{ pints})}{(1)} \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \overset{\text{pints} \rightarrow \text{gallons}}{=} \quad$$

$$\frac{(7 \text{ days})}{(1)} \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \overset{\text{days} \rightarrow \text{seconds}}{=} \quad$$

3. Complete the following problems.

How many minutes are in 13.5 hours?

$$\frac{(\quad)}{(1)} \left(\frac{\quad}{\quad} \right) = \quad$$

How many feet are in 130 yards?

$$\frac{(\quad)}{(1)} \left(\frac{\quad}{\quad} \right) = \quad$$

How many pints are in 30 gallons?

$$\frac{(\quad)}{(1)} \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad$$

How many days are in 150,000 seconds?

$$\frac{(\quad)}{(1)} \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad$$