Name Key Period ____ Date ____

Dimensional Analysis Worksheet

Convert each into the indicated units – show complete work. Box around your final answer!

1. 14.3 m into cm

$$\frac{14.3\text{ m}}{1}\left(\frac{100\text{ cm}}{1\text{ m}}\right) = 1430\text{ cm}$$

2. 5 km into m

$$\frac{5\text{ km}}{1}\left(\frac{1000\text{ m}}{1\text{ km}}\right) = 5000\text{ m}$$

3. 24 km into cm

$$\frac{24\text{ km}}{1}\left(\frac{1000\text{ m}}{1\text{ km}}\right)\left(\frac{100\text{ cm}}{1\text{ m}}\right) = 2{,}400{,}000\text{ cm}$$

4. 3.1 yd into feet

$$\frac{3.1\text{ yd}}{1}\left(\frac{3\text{ ft}}{1\text{ yd}}\right) = 9.3\text{ ft}$$

5. 122 inches into feet

$$\left(\frac{122\text{ in}}{1}\right)\left(\frac{1\text{ ft}}{12\text{ in}}\right) = 10.17\text{ ft}$$

6. 514 inches into yards

$$\frac{514\text{ in}}{1}\left(\frac{1\text{ ft}}{12\text{ in}}\right)\left(\frac{1\text{ yd}}{3\text{ ft}}\right) = 14.28\text{ yd}$$

7. 1 million seconds into days

$$\frac{1{,}000{,}000\text{ sec}}{1}\left(\frac{1\text{ min}}{60\text{ sec}}\right)\left(\frac{1\text{ hr}}{60\text{ min}}\right)\left(\frac{1\text{ day}}{24\text{ hr}}\right) = 11.57\text{ days}$$

8. 7 cups into quarts

$$\frac{7\text{ cup}}{1}\left(\frac{1\text{ pt}}{2\text{ cup}}\right)\left(\frac{1\text{ qt}}{2\text{ pt}}\right) = 1.75\text{ qt}$$

9. 1.2 ft/min into inches/sec

$$\frac{1.2\text{ ft}}{\text{min}}\left(\frac{12\text{ in}}{1\text{ ft}}\right)\left(\frac{1\text{ min}}{60\text{ sec}}\right) = .24\ \frac{\text{in}}{\text{sec}}$$

10. 5 ft into meters

$$\frac{5\text{ ft}}{1}\left(\frac{12\text{ in}}{1\text{ ft}}\right)\left(\frac{2.54\text{ cm}}{1\text{ in}}\right)\left(\frac{1\text{ m}}{100\text{ cm}}\right) = 1.52\text{ m}$$

11. 2 gallon /min into cups/hour

$$\frac{2\text{ Gal}}{\text{min}}\left(\frac{4\text{ qt}}{1\text{ Gal}}\right)\left(\frac{2\text{ pt}}{1\text{ qt}}\right)\left(\frac{2\text{ cup}}{1\text{ pt}}\right)\left(\frac{60\text{ min}}{1\text{ hr}}\right) = 1920\ \frac{\text{cup}}{\text{hr}}$$