Dimensional Analysis Worksheet 3 (Continued)

Useful ratios you may need for this worksheet:

$$\frac{1\ qt}{4\ cups}, \frac{1\ yd}{3\ ft}, \frac{100\ cm}{1\ m}, \frac{10\ mm}{1\ cm}, \frac{1\ lb}{16\ oz}, \frac{0.62\ mi}{1\ km}, \frac{5280\ ft}{1\ mi}, \frac{1\ ton}{2000\ lb}$$

$$\frac{1\ ft}{12\ in}, \frac{3.78\ L}{1\ gal}, \frac{1\ in}{2.54\ cm}, \frac{28.35\ g}{1\ oz}, \frac{1\ km}{1000\ m}, \frac{1\ kg}{2.2\ lb}, \frac{365\ days}{1\ yr}, \frac{4\ qt}{1\ gal}$$

2. Sandi can run for one hour at a constant speed of 348 cm per second. Marci can run for one hour at a constant speed of 8 miles per hour. Which of these sisters is the faster runner? Show your work to explain why.

3. A gallon of chocolate milk sells for $3.14. A snack-size bottle of chocolate milk sells for 3 cents per ounce. Which is a better buy? Show your work to explain why.

4. Igor fills is bathtub at a rate of 0.4 liters per second. Vladimir fills his bathtub at a rate of 25 quarts per minute. Which bathtub is filled at a faster rate. Show your work to explain why?

5. CHALLENGE QUESTION: Noah does an experiment with his friends to determine how many people he can fit into his room. He finds two people can stand in the first square foot. His room is 16 square yards. How many dozen people could fit into his room?

11. _____ 1250000 milligrams = __?__ kilograms

12. _____ 269 millimeters = __?__ centimeters

13. _____ 19 meters = __?__ yards

14. _____ 28 Liters = __?__ gallons

15. _____ 8 ounces = __?__ grams

16. _____ 85 centimeters = __?__ inches

17. _____ 4.3 meters = __?__ decimeters

18. _____ 0.02 Kilometers = __?__ centimeters

19. _____ What is the mass, in grams, of 453 milliliters (mL) of water?

20. _____ 1425 grams of water occupies a volume of __?__ milliliters?

21. _____ 1 liter of water has a mass of __?__ kilograms?

22. _____ The legal highway speed limit in Colorado is 75 miles per hour. What is this in kilometers per hour?