Worksheet – Dimensional Analysis

Name_____
Period _____
Date_____

1. **4 chells = 7 dynes; 3 partles = 5 hides; 2 dynes = 3 hides**
   How many chells are in 8 partles?

2. **There are 5280 feet in a mile. The highway speed limit is 65 mph. Express this speed in km/hr?**

3. **A world-class sprinter runs the 100-yd dash in 9.08 seconds. What is his speed in miles per hour?**

4. **There are 500 sheets of paper in a ream. A printing press uses one ream of paper every 2.77 minutes. Three sheets of paper have a mass of 5.10 grams. 454 grams equal one pound. How many pounds of paper are being used each hour?**

5. **One box of apples weighs 20 lbs. One dozen apples cost 80 cents. There are 825 seeds in a box of apples. $1.50 will buy 3 pounds of apples. How many seeds are there in 15 dozen apples?**

6. Each floor tile covers 64 in^2. 5 lbs of tile costs $3.46. 6$ft^2$ of tile weighs 13 lbs. What is the cost of 19 tiles?

7. The dimensions of a swimming pool are 25 ft x 10 ft x 5 ft. 2.54cm = 1 in; 1 cm^3 = 1 mL; 1 mL of water has a mass of 1 g; 454 g = 1 lb. How many pounds of water are in the pool?

8. a. 5 ft^2 = _____ in^2

   b. 5184 in^3 = _____ ft^3

   c. 44 in^3 = _____ cm^3

   d. 5 g/cm^3 = _____ lb/ft^3

   e. 708 lb/ft^3 = _____ g/cm^3

9. Determine the percent error for each of the following.

a. **experimental value = 1.24 g**
   accepted value = 1.30 g

b. **experimental value = 1.24×10^{-2} g**
   accepted value = 9.98×10^{-3} g

c. **experimental value = 125.2 mg**
   accepted value = 124.8 mg