Dimensional Analysis Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

60 seconds = 1 minute  
60 minutes = 1 hour  
1 mile = 5280 feet  
1 foot = 12 inches

1 yard = 3 feet  
2.54 centimeters = 1 inch  
100 centimeters = 1 meter

1 kilometer = 1000 meters

1 mile =1.6 km

1 gal = 3.785 liters

1. How many seconds are in a day? How many hours are in a year?
2. Commercial airlines fly at 35,000 feet. How many miles from sea level is this?
3. If you are going 50 miles per hour, how many inches per second are you traveling? How many meters per minute are you traveling?
4. Your car's gas tank holds 18.6 gallons and is one quarter full. Your car gets 16 miles/gal. You see a sign saying, "Next gas 73 miles." Your often-wrong brother, who is driving, is sure you'll make it without running out of gas. You're not so sure and do some quick figuring. Will you make it to the next gas stop before running out of gas?
5. You're throwing a pizza party for 15 and figure each person might eat 4 slices. You call up the pizza place and learn that each pizza will cost you $14.78 and will be cut into 12 slices. You tell them you'll call back. If you have $75 to spend (excluding tip), do you have enough money?
6. While enjoying a delicious meal at Taco Bell, you and two friends decide to go to Mexico City from El Paso, TX where y'all live. You volunteer your car if everyone chips in for gas. Someone asks how much the gas will cost per person on a round trip. Your first step is to call your smarter brother to see if he'll figure it out for you. Naturally he's too busy to bother, but he does tell you that it is 2015 km to Mexico City, there's 8 cents to the peso, and gas costs 7.62 pesos per liter in Mexico. You know your car gets 21 miles to the gallon. How much is the trip going to cost each person in gas ($/person).
7. The speed of light is 3 x 108meters per second. What is the speed of light in miles per hour?
8. Your pet hamster runs a maze at a rate of 200 inches in 10 seconds. How fast is he running in miles per hour?
9. Who is traveling faster? You hiking at 4 miles per hour or a snake slithering (in a straight-ish line) at 8 feet per second?
10. You want to paint your room. You measure and find that the floor measures 10 feet by 12 feet and the ceiling height is 9 feet. If the paint you choose comes in gallons and covers 25 square yards per gallon, how many gallons should you buy?