Dimensional Analysis Practice

Work on these problems on a separate sheet of paper. Remember if I do the problems you won't learn; if YOU do you will!

1. If your pace on a treadmill is 65 m/min, how many minutes will it take for you to walk a distance of 7500 feet?

2. You find 13,406 pennies. How many dollars did you actually find? If each penny weighs 4.0 g, how much did all the pennies weight in lbs?

3. The fastest typers in the world can reach speed of 170 words per minute. If you have a paper that needs to be 5000 words long, and you want the typist to do it for you, approximately how long, in hours, will it take the typist?

4. The moon is 250,000 miles away. How many mm is it from earth?

5. You have an 18 year old friend that never learned unit conversions. He started working at a fast food restaurant wrapping hamburgers. Every 3 hours he wraps 350 hamburgers. He works 8 hours per day. He works 5 days a week. He gets paid every 2 weeks with a salary of $440.34. Approximately how many hamburgers will he have to wrap to make his first one million dollars?

6. A Renaissance student is in class 350 minutes/day. How many hours/day is this?

7. Chicago uses 1.2×10^9 gallons of water /day. How many gallons per second must be pumped from the lake every second to supply the city?

8. You are traveling from Detroit to Los Angeles in your beat up 1999 Ford Explorer that only gets 14.8 miles per gallon. If the cost of gas is $3.67 per gallon, and the distance from Detroit to Los Angeles is 2282 miles, what will the cost of the trip be?

9. If a projectile travels 3.00×10^3 feet in one second, how far will it travel in 18 minutes?

10. A small herd of cattle consumes fourteen bales of hay in two weeks. How many bales will this herd consume in a year?

11. Saffron costs $368.00 per ounce. Determine how many grams you can purchase for $15.00.

12. A gas station is charging $3.299 per gallon of gas. What would be the price for a liter of gas?

13. How many feet per second is a wave going if it travels a distance of one mile in 7.35 seconds?