Multidimensional Properties Worksheet
General Science

1. You are putting in new vinyl flooring at your shop. The floor is 15 ft x 18 ft. What is the area?

2. How many square feet in one square yard? (It may help to draw a model.)

3. Flooring is usually sold not by the square foot but by the square yard. What is the area of your shop (from question 1) in square yards?

4. If the shop (from Question 1) has an eight-foot ceiling, what volume of air is in the room (in cubic feet)?

5. Because of the chemicals used in the salon, you want to make sure you have good ventilation. You want the air to be completely exchanged every 30 minutes. How many cubic feet of air will be moved in 1 hour?

6. You want to buy an exhaust fan but most fans are rated in cubic feet / minute. Convert your answer from question 5 to cubic feet per minute.

7. A case of twelve bottles of "Silky Smooth" conditioner cost you $15.60 from one supplier. A second supplier will sell you a "mega-pack" (30 bottles) for $37.50. You want to get the best deal. What is the unit price (per bottle) from each supplier?

   Supplier 1 =

   Supplier 2 =

8. You charge a customer $8.50 for a 1 liter bottle of LePew Shampoo. A customer says they can buy a 1-liter bottle of Wal-Mart Shampoo for $6.50. You explain to your customer that your higher quality shampoo is really a better deal because you don't need to use as much. The directions on the LePew Shampoo say to use 5 ml. The directions on the Wal-Mart Shampoo say to use 10 ml. Calculate the cost per use of each shampoo.

   LePew Shampoo

   Wal-mart Shampoo

9. A disinfecting solution can be made from ¼ cup of household beach in 1 gallon of water. You want to make up a batch to put in a 1-liter spray bottle. What is the concentration of the disinfectant in milliliters of bleach per liter of water?

10. A weaker solution (1 tablespoon of bleach per gallon of water) can be made for use on items like eating utensils. What is the concentration of this solution in milliliters of bleach per liter of water.

11. You employer is thinking about changing how they pay employees. You are currently making $9.50/hr. They propose to pay you $6.00 per customer. You estimate that you serve approximately 50 clients per week, you work 7 hours per day, 5 days per week. What would your new hourly wage be under the proposed system?