FLM / Dimensional analysis PROBLEM SET

1. How many ounces is 45.0 tons?

2. How many liters are in 8.55 cubic miles of ocean water?

3. Water has a density of one gram (1.00g) per cubic centimeter. What is that in pounds per gallon?

4. A road sign posts a 50.0 MPH limit. What is that in KPS?

5. How large in square feet is a 525 square meter house?

6. How many square yards of paint are needed on the ceiling of a room that is 24.0 feet wide, 51.0 feet long and ten feet high?

7. Gasoline has a density of 5.83 pounds per gallon. What volume tank would you need to store three tons of gasoline?

8. The bathtub in the residential suite of the White House had to be enlarged for William Howard Taft. He weighed 370 pounds. The bathtub is four feet wide, six feet long and three feet high. How many gallons of water are needed to fill the WHT Memorial Bathtub? (1 gal = 231 cu.in.)

9. The density of water is 8.3 pounds/gal. What weight of water is needed to fill the WHT Memorial Bathtub?

10. Mercury is 13.6 kg/liter. What mass of mercury is needed to fill the WHT Memorial Bathtub?

11. The velocity of light is 186,000 mi/sec. It takes radio signals 17.6 minutes to go from Earth to Jupiter at their closest approach. How far apart are the two planets at that time?

12. A car takes on 22.7 L of gasoline. How many oz. is that?

13. Osmium metal is 22.0 g/mL. What's the volume of 2.50 kg of it?

14. Concentrated sulfuric acid is 1.84 kg/L. What is the mass of 500 mL of it?

15. A man is 5 ft. 11 inches tall. How many meters is that?