

Name: _____

Period: _____

“CONVERSIONS B”

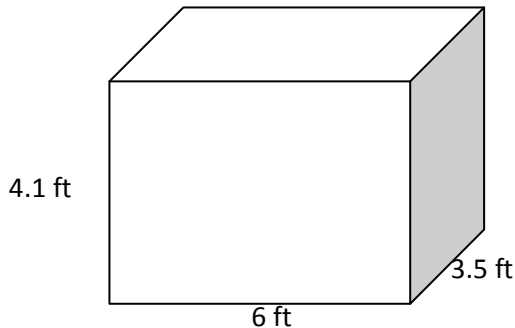
Directions: Complete each problem. You may use your Conversions Sheet. Be sure to show all work as shown in class. Partial credit may be earned for work shown. For some problems accuracy may be noted in terms of how far you go past the decimal place)

MASS

1. An object is 505 lbs, what is its mass in Kilograms? (Answer: 1 Decimal Place)

VOLUME

2. Using the diagram provided, determine the volume in cubic feet of the aquarium?



VOLUME

3. Using the answer from the question above, how many gallons could the aquarium hold? (HINT: there are 0.13368 ft³ in 1 gallon) (Answer: 1 Decimal Place)

DENSITY

4. The formula for density = mass (in grams) / volume (cm³). An object has a mass of 3.5 kilograms and a volume of 2,500 cm³.

- A. What is the mass of the object in grams?
- B. What is the density of the object? (Record answer out 1 decimal place)
- C. Will the object float or sink? (Explain your answer)

AREA

5. A desk is 86 cm wide by 55 cm long. What is the surface area of the desk? (Record in cm²)

WEIGHT

6. An object has a weight of 158 N on Earth. What is the Weight of the object on the Moon?
(Remember, that gravity on the moon is $\frac{1}{6}$ that of Earth) (Record answer out 1 decimal place)

WEIGHT

7. An object is 8 Kg on Earth. (Weight = Mass x Acceleration) Remember, that Mass must be in Kg, and Acceleration of Gravity on Earth is 9.8 m/s^2 . (Round to the nearest whole number)

A. What is the Weight of the object on Earth?

B. What is the Weight of the object on Mars? (To calculate Weight on another planet, you must first find the Weight in Newtons on Earth, then multiply by the other planets relative gravity) (Record Answer out 1 decimal place)

LENGTH

8. You run a 100 meter dash. How many feet did you run? (Round to the nearest whole number)

MASS

9. An object has a mass of 250 Kg on Earth. What is the mass of the object on the moon?

VOLUME

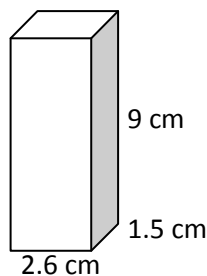
10. You have a beaker of water, a rock, and 375 mL of water. You place the 375 mL of water in the beaker. You then place the rock in the water. The water level goes from 375 mL to 425 mL.

A. What is the volume of the water displaced by the rock in mL?

B. What is the volume of the rock in cm^3 ?

DENSITY

11. An object is 35 grams and it's measurements are shown below.



A. What is the mass of the object?

B. What is the volume of the object? (Go out one decimal place)

C. What is the density of the object? (Record Answer 3 Decimal Places)

AREA

12. A classroom measures 20 feet long and 18 feet wide.

- A. Floor tiles measure 1 ft^2 . How many floor tiles are needed to redo the floor?
- B. The floor tiles you like come 15 in a box, how many boxes must you buy? *NOTE: you can't buy a partial box, and must tile the entire floor.*
- C. How many m^2 is the floor?

LENGTH

13. A mile is 5,280 feet. *Remember: $10 \text{ mm} = 1 \text{ cm}$, $100 \text{ cm} = 1 \text{ m}$, $1 \text{ km} = 1000 \text{ m}$*

- A. How many meters is are in 5 miles? (Use $0.30 \text{ meters} = 1 \text{ foot}$)
- B. How many centimeters is that? (use previous answer to do this problem)
- C. How many millimeters is that? (use previous answer to do this problem)

MASS

14. The cost of gold is \$1,309.16 per ounce (as of 9/29/10). Your grandmother left you 170 grams of gold coins and you want to purchase your first car. The car you want is \$5500.

- A. How many ounces of gold do you have to sell? (Gold is expensive, go out as many decimal places as you can, you don't want to be ripped off during the exchange)
- B. If you sell the gold, how much money can you get? (Go to the nearest cent)
- C. Do you have enough to buy the car? If not, how much are you short. If you have extra, how much extra.

DENSITY

15. The density of fresh water is 1.0 g/cm^3 . Anything < 1.0 will float. Anything > 1.0 will sink. If you build a boat and it has a mass of 3,500 Kg and a volume of 3,000,000 cm^3 .

- A. What is the mass in grams? (Remember, there are 1000 grams in 1 kilogram)
- B. What is the Density? (Go out two decimal places)
- C. Will it sink or float? Explain your answer.