

Name: _____

Period: _____

“CONVERSIONS D”

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)

TEMPERATURE 1. You just arrived in Zaire, the temperature reads 30° Celcius. What is the temperature in Fahrenheit?
(Be sure to identify the equation to be used in your answer, show all necessary steps for credit)

LEVEL 1

DENSITY 2. The formula for density = mass (in grams) / volume (cm³). An object has a mass of 7.0 kilograms and a volume of 8,000 cm³.

LEVEL 1

A. What is the mass of the object in grams?

LEVEL 2

B. What is the density of the object? (Record answer out 3 decimal places)

LEVEL 2

C. Will the object float or sink? (Explain your answer)

AREA 3. A desk is 30 cm wide by 54 cm long. What is the surface area of the desk? (Record in cm²)

LEVEL 1

WEIGHT 4. An object has a weight of 400 N on Earth. What is the Weight of the object on the Moon?
(Remember, that gravity on the moon is 1/6 that of Earth) (Record answer out 1 decimal place)

LEVEL 1

VOLUME

5. You have a beaker of water, a rock, and 100 mL of water. You place the 100 mL of water in the beaker. You then place the rock in the water. The water level goes from 100 mL to 210 mL.

LEVEL 1

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 ?

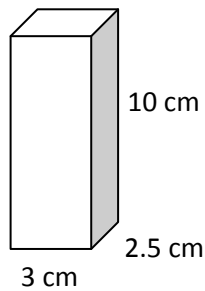
LEVEL 1

DENSITY

6. An object is 80 grams and it's measurements are shown below.

LEVEL 1

A. What is the mass of the object?



LEVEL 1

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

LEVEL 2

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

AREA

7. A classroom measures 19 feet long and 33 feet wide.

LEVEL 1

A. Floor tiles measure 1 ft^2 . How many floor tiles are needed to redo the floor?

B. The floor tiles you like come 23 in a box, how many boxes must you buy? *NOTE: you can't buy a partial box, and must tile the entire floor.*

LEVEL 2

C. How many m^2 is the floor? (Record your answer out 2 decimal places)

LEVEL 1

MASS

8. An object is 500 lbs, what is its mass in Kilograms? (Record your answer out 1 decimal place)

LEVEL 1

TEMPERATURE

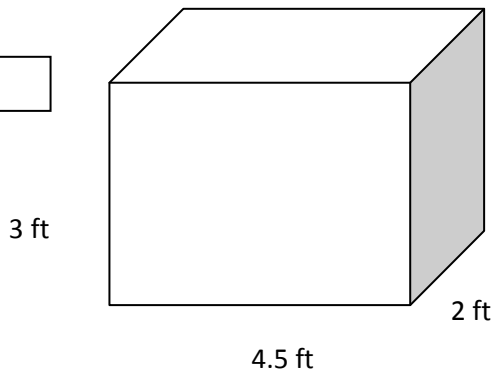
9. The temperature in your hot tub reads 103 ° Fahrenheit. What is the temperature in Celcius? (Be sure to identify the equation to be used in your answer, show all necessary steps for credit) (Record your answer out 1 decimal place)

LEVEL 1

VOLUME

10. Using the diagram provided, determine the volume in cubic feet of the aquarium? (Record your answer out 1 decimal place)

LEVEL 1



VOLUME

11. Using the answer from the question above, how many gallons could the aquarium hold? (HINT: there are 0.13368 ft³ in 1 gallon) (Record your answer out 2 decimal places)

LEVEL 2

LENGTH

12. A mile is 5,280 feet. *Remember: 10 mm = 1 cm, 100 cm = 1 m, 1 km = 1000 m*

A. How many meters is are in 2 miles? (Use 0.30 meters = 1 foot)

LEVEL 1

B. How many centimeters is that? (use previous answer to do this problem)

LEVEL 2

C. How many millimeters is that? (use previous answer to do this problem)

LEVEL 3

MASS

13. The cost of gold is \$1,358.93 per ounce (as of 10/13/10). Your grandmother left you 100 grams of gold coins and you want to purchase your first car. The car you want is \$5000.

LEVEL 1

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)

LEVEL 2

C. Do you have enough to buy the car? If not, how much are you short. If you have extra, how much extra. Be sure to include how much extra money you will have, or how much money you are short.

LEVEL 2

WEIGHT

14. An object is 75 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)

LEVEL 2

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

B. What is the Weight of the object on Neptune? (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)

LEVEL 3

TEMPERATURE

15. Scientists are conducting an experiment. The temperature they must conduct the experiment at is 5 Kelvin. What is that temperature in degrees Celsius? (Be sure to identify the equation to be used in your answer, show all necessary steps for credit)

LEVEL 2

LENGTH

16. You run a 500 meter dash. How many feet did you run? (Round to the nearest whole number)

LEVEL 1

MASS 17. An object has a mass of 600 Kg on Earth. What is the mass of the object on the moon?

LEVEL 2

DENSITY 18. 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 3,250 Kg and a volume of $4,000,000 \text{ cm}^3$.

A. What is the mass in grams? (Remember, there are 1000 grams in 1 kilogram)

LEVEL 1

B. What is the Density? (Go out two decimal places)

LEVEL 2

C. Will it sink or float? (Explain Your Answer)

LEVEL 2

TEMPERATURE 19. Scientists are conducting an experiment. The temperature they must conduct the experiment at is 250 Kelvin. What is that temperature in degrees Fahrenheit? (Be sure to identify the equation to be used in your answer, show all necessary steps for credit)

LEVEL 3