

Worksheet: Dimensional Analysis

1. The distance from the thumb to the little finger on Erbie Terbium's hand is 9 inches. Convert this to centimeters.
2. According to the Guinness Book of Records the heaviest baby ever born weighed 29 lbs 4 oz. (29.2 lbs). What was the baby's mass in kG? (Historical Note: The birth occurred in Effingham IL in 1939 and due to respiratory problems the baby died two hours later. The heaviest babies to survive weighed 22.5 lbs and were born in 1955 and 1982.)
3. Your cross country skis are 210 cm long. What is their length in inches?
4. A condor has a wing span of 3.05 M. What is the wing span in feet?
5. In Europe gasoline is sold by the liter. Assume that it takes 14 gallons of gasoline to fill the tank of a compact car. How many liters of gasoline will it take?
6. You have just received a French cookbook from the exchange student. You want to make 3 quarts of punch for a party. Will a recipe of 2.5 L be enough?
7. Some owls maintain territories of up to 3 acres. How many owls could live in a large wooded area of 20 hectares? (1 hectare=1 sq. dekameter=100 m²= 2.47 acres)
8. Ruth Palladium (RuPd) bought 10 acres of land and built a house on 2 acres. RuPd wanted to raise sheep on the remaining 8 acres. If it takes 1/8 (0.125) hectare to raise one sheep, how many sheep can be raised on the 8 acres.
9. One 1.6 oz. of package of cinnamon and spice instant oatmeal contains 34 G of carbohydrates. If you had instant oatmeal 6 days a week, how many ounces of carbohydrate would you consume in a week? (16 oz =1 lb = 454 G =256 Drams = 7000 Grains)
10. Many candybars have 9 G of fat per bar. If during a "chocolate attack" you ate one pack of candy (0.6 dekabars), how many ounces of fat would you have eaten? There are approximately 9 Calories per gram of fat, how many Calories is this?
11. If the RDA for vitamin C is 60 mG per day and there are 70 mG of vitamin C per 100 G of orange, how many 3 oz. oranges would you have to eat each week to meet this requirement?
12. If Gasp cigarettes have 5 mG tar and 0.4 mG nicotine per cigarette and there are 20 cigarettes per pack, how many packs of cigarettes would have to be smoked to coat your lungs with 8 oz (1/4 lb.) of tar? How many packs would you have to smoke to coat your lungs with one gram of nicotine?
13. You are riding home from a party and the driver has been drinking. The car is traveling at 60 mi per hour. Suddenly a child steps into the road ahead. Because the driver has been drinking his reaction time has been slowed by 1 second. How far toward the impending accident will the car travel before the driver begins to stop? (Note: This is equal to the extra distance it will take to stop the car because the driver has been drinking.)