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# Factor Label Practice #2

1. Pepsi puts 355 ml of pop in a can. How many drops is this? How many cubic meters is this?
2. Lake Michigan holds 1.3 x 1015 gallons of water. If just Chicago removed water from the lake and it never rained again, how many days would the water last? Chicago uses 1.2 x 109 gallons of water per day.
3. In one of the episodes of the TV program McGyver, a plane load of gold was being transported form the Soviet Union to the United States during World War II. The plane crashed in the Artic region and to prevent the "bad guys" from getting the gold the pilot and co-pilot transferred it to a cave by stacking the gold on a door of the crashed plane and pulling the gold on this "sled" to the cave. You were led to believe in the episode that they accomplished the move in one trip because the gold was neatly stacked on the "sled" in the cave. The neatly stacked gold measured about 1 meter on a side. Calculate the weight, in tons, of one cubic meter of gold and determine if it would be possible for the two pilots to accomplish this feat. Would a plane of WWII vintage be able to carry this amount of gold? (DAu=19.4 G/cc)
4. Look up the current price of gold. What would one cubic meter of gold be worth today? You may assume that 1 troy ounce of gold equals 31.1 G. [ Note: one Advp. ounce is equal to about 28.3 grams. Different conversion factors are used for gold and silver because there are two different English ounces. One pound of gold is about 373 grams, while one pound of sand, or just about everything else, is about 454 grams.]
5. If one afternoon Mike, from Nibley, decides to dig a hole through the earth to China for a game of ping pong, how many centuries would elapse before he got there if he dug at a rate of 0.4 miles depth per day and the diameter of the earth is 1.2700 x 107 m? (1.61 km/mile)
6. Jason, from Wellsville, raised 60 goats, then entered into a series of business transactions. He traded all the goats for sheep at an exchange rate of 5 goats for 7 sheep. Next, he exchanged all the sheep for hogs at a rate of 4 sheep for 2 hogs weighing 250 lbs. each. He sold all the hogs at a market price of $55.00 per 100.0 lbs. How much money did he make from the 60 goats?
7. Eggs are shipped from a poultry farm in trucks. The eggs are packed in cartons of one dozen eggs each; cartons are placed in crates that hold 20 cartons each. The crates are stacked in the trucks, 5 crates across, 25 crates deep and 25 crates high. How many eggs are in 5 truckloads?
8. How many miles could you drive for $7.90 if the gas mileage of your car is 14 km/liter of gas and the price is $2.29/gal? (1.61 km/mile, 4 qt/gal, 1.1 qt/L)
9. David, from Paradise, operates a crane that can pick up 3.0 tons of excavated earth in an hour. Dave’s wages are $35 per hour. What, then, is the cost of picking up 85 kg of excavated earth? (2.2 lb/kg, 2000 lb/ton)