

Chemistry I – Test Chapter 3 practice problems

Mr. Gunther

- 1) What is the volume of 500.0 g of ice if the density of ice is 0.92 g/mL? 1) _____
- 2) Convert 13 μg to kilograms 2) _____
- 3) In 1976, an airplane was flown at a speed of 2193 miles per hour. What was the speed of the plane in meters per second? (1 km = 0.621 mi) 3) _____
- 4) Express the rate 21 m/s in km/hr. 4) _____
- 5) Express the density 4.2 g/cm³ in kg/m³. 5) _____
- 6) Give a conversion factor that may be used to convert kiloliters to nanoliters. 6) _____
- 7) Express the ratio 99.5 g/mol in kg/kmol. 7) _____
- 8) Convert 0.300 mol to kilomoles. 8) _____
- 9) Convert 332 mmol to kilomoles. 9) _____
- 10) Convert 121 g to milligrams 10) _____
- 11) Light travels at a speed of 186 000 miles/second in a vacuum. How many kilometers will it travel in two hours? (1 km = 0.621 mile) 11) _____
- 12) What is the mass of a bone that has a volume of 80.0 cm³ and a density of 1.9 g/cm³? 12) _____
- 13) Convert 7600 micrograms to centigrams. 13) _____
- 14) Convert 0.968 kL to liters. 14) _____
- 15) Convert 549 kg to grams. 15) _____
- 16) Convert 0.769 kg to decigrams. 16) _____
- 17) Convert 0.945 dL to liters. 17) _____
- 18) Convert 673 m to kilometers. 18) _____
- 19) An automobile can travel 21.0 miles on 1 gallon of gasoline. How many kilometers per liter is this? (1.61 km = 1 mi; 1 L = 1.06 quart; 1 gallon = 4 quarts) 19) _____
- 20) List four different conversion factors for kilometers and meters. 20) _____
- 21) If the known is expressed in units of kilometers and the unknown is to be expressed in units of centimeters, what is the appropriate conversion factor? 21) _____

- 22) The density of water is 1.0 g/mL. What is the density of water in pounds/gallon? (1 qu = 0.946 L; 1 g = 2.20 x 10⁻³ lb.) 22) _____
- 23) List four different conversion factors for micrograms and grams. 23) _____
- 24) What is the volume of a liquid that has a density of 0.90 g/cm³ and a mass of 60.0 g? 24) _____
- 25) Convert 0.0349 mm to meters. 25) _____
- 26) If the known is expressed in units of micromoles and the unknown is to be expressed in units of kilomoles, what is the appropriate conversion factor? 26) _____
- 27) Gold has sold for \$500/ounce. Considering that there are 16 ounces (or 454 grams) in a pound, how many milligrams of gold could you buy for one cent? 27) _____
- 28) Give a conversion factor that may be used to convert micrograms to kilograms. 28) _____