

[Show your work when appropriate & place your answer in the blank supplied]

_____ 1. What are the correct units for the answer to a problem if the following series of conversion factor units are used?

zog ²	lump	twillig	dunks	dunks
zog	zog	lump	zog	twillig

_____ 2. Evaluate the following:

$$\frac{(6.02 \times 10^{23}) (7.11 \times 10^{-31}) (3.98 \times 10^{24}) (3.82 \times 10^8)}{(3.92 \times 10^{-16}) (4 \times 10^8) (6.99 \times 10^{16}) (2.99 \times 10^{30})}$$

_____ 3. Given the following equivalents, convert 1 fizzle to frizzles.

- 3 swizzles = 7 twizzles
- 1 fizzle = 2 drizzles
- 2 twizzles = 14 sizzles
- 1 swizzle = 20 frizzles
- 8 drizzles = 6 sizzles

_____ 4. Jules Verne wrote a book called *Twenty Thousand Leagues Under the Sea*. Using the conversion factors listed below, convert 20,000 leagues to yards.

- 12 in = 1 ft
- 3 ft = 1 yd
- 1 fathom = 2 yards
- 1 statute mile = 5280 ft
- 1 nautical mile = 6080 ft
- 1 league = 3 nautical miles

Directions (5-7): Use your table of conversion factors to make the following conversions:

_____ 5. Convert 5.35 miles to kilometers.

_____ 6. Convert 50 inches to meters

_____ 7. Convert 65 mi/hr to in/min

_____ 8. At \$1.30 per gallon, how much will it cost to buy 125 liters of Amoco Ultimate gasoline?

_____ 9. The volume of water in a graduated cylinder is 8.0 cm^3 . The volume changes to 10.5 cm^3 when a 6.50 g sample of a substance is lowered into the cylinder. What is the density of the substance?

_____ 10. 70 mL of a liquid (density = 0.85 g/mL) is added to a graduated cylinder that has a mass of 60.75 g . What is the mass of the cylinder plus the liquid?

Answers: 1. dunks² 2. 1.986×10^{-14} ; 3. 1.84 fizzles; 4. 122,000,000 yds; 5. 8.608 km; 6. 1.27 m; 7. 68,640 in/min; 8. \$42.79; 9. 2.6 g/cm^3 ; 10. 120.65 g