Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) If 842 pounds of Moon samples have been collected from lunar landings, what is the mass   1) _____
   expressed in kilograms? (Given: 1 kg = 2.20 lb)
      A) 383 kg   B) 1850 kg   C) 309 kg   D) 3830 kg   E) 11,100 kg

2) Sterling silver is composed of 92.5% silver and 7.5% copper. If a sterling silver ring contains 6.55 g   2) _____
   of silver, what is the mass of the ring?
      A) 0.0708 g   B) 0.491 g   C) 87.3 g   D) 7.08 g   E) 6.06 g

3) Stainless steel is an alloy of iron, chromium, nickel, and manganese metals. If a 5.00g sample is   3) _____
   2.00% manganese, what is the mass of manganese in the sample?
      A) 0.100 g   B) 0.00500 g   C) 0.0500 g   D) 0.200 g   E) 0.0100 g

4) A sample of steel is added to a 100–mL graduated cylinder with 45.0 mL of water. Ifthe resulting   4) _____
   water level is 55.5 mL, what is the volume of the steel?
      A) 89.5 mL   B) 100.5 mL   C) 44.5 mL   D) 10.5 mL   E) 55.0 mL

5) A block of copper has a mass of 143.584 g and measures 5.05 cm by 2.55 cm by 1.25 cm. What is the   5) _____
   density of the rectangular copper block?
      A) 8.92 g/cm^3

      B) 0.112 g/cm^3

      C) 29.0 g/cm^3

      D) 28.4 g/cm^3

      E) 11.1 g/cm^3

6) A glass cylinder contains four liquid layers: mercury (d = 13.6 g/mL), chloroform (d = 1.49 g/mL),   6) _____
   water (d = 1.00 g/mL), ether (d = 0.708 g/mL). If a cork stopper (d = 0.50 g/mL) is dropped into the
   cylinder, where does it come to rest?
      A) on top of the ether layer
      B) on the bottom of the cylinder
      C) on top of the mercury layer
      D) on top of the chloroform layer
      E) on top of the water layer

7) What are the freezing point and boiling point of water on the Fahrenheit scale?   7) _____
      A) 0 °F and 100 °F
      B) –32 °F and 212 °F
      C) 32 °F and 100 °F
      D) 32 °F and 212 °F
      E) 0 °F and 212 °F

8) Calculate a length of copper wire having a diameter of 0.200 cm and a mass of 15.620 g. The density   8) _____
of copper is 8.92 g/cm^3. The volume of wire equals πd^2 L/4, and $\pi = 3.14$, d = diameter, and L = length)
- A) 55.8 cm
- B) 1.80 x 10^{-4} cm
- C) 1.75 cm
- D) 5.50 x 10^{-2} cm
- E) 4.00 x 10^{-4} cm

9) The density of carbon tetrachloride is 1.60 g/cm^3. What is the density of the liquid expressed in SI   9) _____
units (kg/m^3)?
- A) 0.160 kg/m^3
- B) 1.60 kg/m^3
- C) 1.60 x 10^6 kg/m^3
- D) 16.0 kg/m^3
- E) 1.60 x 10^3 kg/m^3

10) An Indy 500 car can travel 111 m/s. What is the speed of the car in miles per hour? (Given: 1 mi =   10) _____
1.61 km, and 1 h = 3600 s)
- A) 178 mi/h   B) 400 mi/h   C) 111 mi/h   D) 248 mi/h   E) 643 mi/h