# 0.3 Density Checkup/Pretest

1. Compare the the volumes and densities of a 10 g and a 50 g pieces of lead.
   (A) The 10 g piece would have a smaller volume and a smaller density than the 50 g piece.
   (B) The 10 g piece would have a smaller volume but a larger density than the 50 g piece.
   (C) The 10 g piece would have a smaller volume but an identical density to the 50 g piece.
   (D) The 10 g piece would have a larger volume, but a smaller density than the 50 g piece.
   (E) The 10 g piece would have an identical volume and an identical density to the 50 g piece.

2. Water, Ethanol, and Iron are mixed into a container. What will be the order of the substances once they settle out from top to bottom? (Refer to "Densities of Some Common Materials" on page 17 of your text.)
   (A) ethanol, iron, water
   (B) water, iron, ethanol
   (C) ethanol, water, iron
   (D) water, ethanol, iron
   (E) None of these are correct.

3. A pure sample of gold has a volume of 25.0 $cm^3$ and a mass of 483 g. What is the density of gold?
   (A) 19.4 $g/cm^3$
   (B) 0.0514 $g/cm^3$
   (C) 508 $g/cm^3$
   (D) 0.00197 $g/cm^3$
   (E) None of these are correct.

4. If the sample used in question 3 was not pure gold, the density of the sample would *most* likely be:
   (A) Smaller than the value of pure gold.
   (B) Larger than the value of pure gold.
   (C) Either larger or smaller than that of pure gold.

5. A 4.86 g piece metal was place in a graduated cyilinder containing 15.5 mL of water. The water level rose to 17.3 mL. What is the density of the metal?
   (A) 0.28 g/mL
   (B) 0.31 g/mL
   (C) 3.2 g/mL
   (D) 3.6 g/mL
   (E) None of these are correct.

6. A half a liter of gasoline ( 0.5 L = 500 $cm^3$ ) would have what mass, if the density of the gasoline is about 0.60 kg/L?
   (A) 500 g
   (B) 0.3 g
   (C) 700 g
   (D) 300 g
   (E) None of these is correct.

7. What is the volume of 3.0 grams of lead? The density of lead is 11.34 $g/cm^3$.
   (A) 0.26 mL
   (B) 0.29 mL
   (C) 3.8 mL
   (D) 34.2 mL
   (E) None of these are correct.

Answer Key

1. (C)
2. (C)
3. (A)
4. (A)
5. (E)
6. (D)
7. (A)