Name: Key
Density homework

Period: _____
Date: _____

UNITS FOR ALL ANSWERS!!!!

1. Write a definition for density.

The amount of mass per volume.

2. Write the mathematical formulas for the following values:

a. Density = $\frac{M}{V}$

b. Mass = $D \cdot V$

c. Volume = $\frac{M}{D}$

3. Calculate **density** if mass = 54g and volume = 6cm³

$D = \frac{M}{V} = \frac{54\,g}{6\,cm^3} = 9\,g/cm^3$

4. Calculate **mass** if density = 20g/mL and volume = 15mL

$M = D \cdot V = 20\,\frac{g}{mL} \times 15\,mL = 300\,g$

5. Calculate **volume** if mass = 42g and density = 6g/cm³

$V = \frac{M}{D} = \frac{42\,g}{6\,g/cm^3} = 7\,cm^3$

6. What would be the **mass** of a 7.0 mL sample of material if it had a density of 5.0 g/mL?

$M = D \cdot V = 5.0\,g/mL \times 7\,mL = 35\,g$

7. What would be the **volume** of a 24.0 g sample of material if it had a density of 8.0 g/mL?

$V = \frac{M}{D} = \frac{24.0\,g}{8\,g/mL} = 3\,mL$

8. Calculate the **density** of a material for which a 6.4 mL sample has a mass of 13.203 g.

$D = \frac{M}{V} = \frac{13.203\,g}{6.4\,mL} = 2.06\,g/mL$