

Name _____

Density

- 1) What is the mass of $200.\text{cm}^3$ of toluene if the density of toluene is 0.865g/cm^3 ?
- 2) A sheet of copper foil has the dimensions of 2.00mm by 25mm by 25mm and has a mass of 11g . What is the density of copper in g/cm^3 ?
- 3) A block of lead having a mass of 1.587kg has dimensions of 4.50cm by 5.20cm by 6.00cm . What is the density of lead in g/cm^3 ?
- 4) Aluminum has a density of 2.702g/cm^3 . What is the volume of a piece of aluminum with a mass of $250.\text{g}$?
- 5) What is the mass of $100.\text{mL}$ of methylene chloride if the density of methylene chloride is 1.325g/cm^3 ?
- 6) $100.\text{cm}^3$ of sodium chloride has a mass of 216.5g . What is the density of sodium chloride in g/cm^3 ?
- 7) The density of mercury is 13.6g/cm^3 . What is the mass of a sample of mercury if its volume is 95.2dL ?
- 8) You take data in a lab to determine the density of magnesium. You find that the mass of the magnesium that you used was 6.23g . You used a graduated cylinder that had 5.03mL of water in it and after you added the magnesium piece to it the new volume of the water and the magnesium was 8.69mL . What is the density of magnesium in g/mL ?
- 9) What is the mass of an iron cylinder if iron has a density of 7.20g/cm^3 and the cylinder has a radius of 3.00cm and a height of 10.00cm ? ($V_{\text{cyl}} = \pi r^2 h$)
- 10) The density of silicon dioxide (sand) is 2.6g/cm^3 . If you had to transport 3.0×10^4 cubic feet of sand to a beach and a dump truck can hold $60.$ tons, then how many trucks will you need to do the job in one trip?
- 11) What is the mass of an iron bar if its dimensions are 45.0mm by 10.0cm by 0.0400m and iron has a density of 7.20g/cm^3 ?
- 12) What is the mass of a water balloon (assumed to be spherical) if the radius of the balloon is 3.00 in and the density of water is 1.00g/cm^3 ? ($V_{\text{sphere}} = \frac{4}{3}\pi r^3$)