

Name _____

Density

- 1) What is the mass of $200.\text{cm}^3$ of toluene if the density of toluene is 0.865g/cm^3 ?
173g
- 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 ?
8.8g/cm³
- 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 ?
11.3g/cm³
- 4) Aluminum has a density of 2.702g/cm^3 . What is the volume of a piece of aluminum with a mass of 250.g?
92.5cm³
- 5) What is the mass of 100.mL of methylene chloride if the density of methylene chloride is 1.325g/cm^3 ?
133g
- 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 ?
2.17g/cm³
- 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?
1.29x10⁵g
- 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 ?
1.70g/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? ($V_{\text{cyl}}=\pi r^2 h$)
2040g
- 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?
41 trucks
- 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 ?
1.30x10³g
- 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 ? ($V_{\text{sphere}}=4/3\pi r^3$)
1850g