RQ Density Calculations

Name: _____ **Date:** _____

1.

Common Metals

Metal	Density (g/cm^3)
aluminum	2.7
iron	7.9
lead	11.4
silver	10.5

If the volume for each of these metals was 20 cm^3, what would be the mass of the iron sample?

A. 2.5 g B. 54 g C. 158 g D. 210 g

2. A 2 g object has a volume of 50 cm^3. What is its density?

A. 0.04 g/cm^3 B. 25 g/cm^3

C. 40 g/cm^3 D. 100 g/cm^3

3. A liquid with a mass of 30g has a density of 5g/cm^3. What is the volume of this liquid?

A. 0.167 cm^3 B. 6 cm^3

C. 25 cm^3 D. 150 cm^3

4.

Common Metals

Metal	Density (g/cm^3)
aluminum	2.7
iron	7.9
lead	11.4
silver	10.5

Based on the above table, If the mass of each of these samples of metal was 25 grams, what would the volume of the silver sample be?

A. 2.39 cm^3 B. 3.16 cm^3

C. 9.26 cm^3 D. 262.5 cm^3

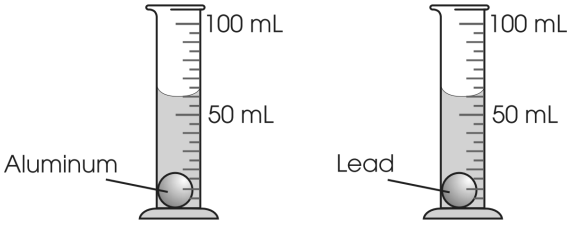
5. **Density Experiment**

The two graduated cylinders pictured can hold the same amount of water and use the same scale.

A student measures the masses of two metal balls. The aluminum ball has a mass of 27 grams and the lead ball has a mass of 113 grams.

One ball is made of aluminum and the other ball is made of lead.

The student adds 50 mL of water to each graduated cylinder and then drops one metal ball into each graduated cylinder.



What is the volume of aluminum ball?

A. 2 mL B. 50 mL

C. 52 mL D.

6. What is the volume of lead ball?

A. 2 mL B. 3 mL

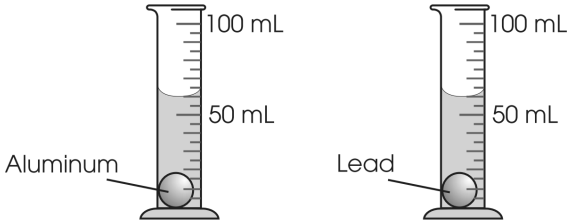
C. 50 mL D. 52 mL

7. **Density Experiment**

The two graduated cylinders pictured can hold the same amount of water and use the same scale.

A student measures the masses of two metal balls. The aluminum ball has a mass of 5.4 grams and the lead ball has a mass of 22.8 grams.

The student adds 50 mL of water to each graduated cylinder and then drops one metal ball into each graduated cylinder.



What is the density of the aluminum ball?

A. 9.6 g/cm^3 B. 9.26 g/cm^3

C. 10.8 g/cm^3 D. 2.7 g/cm^3

8. What is the density of the lead ball?

A. 0.44 g/cm^3 B. 11.4 g/cm^3

C. 24.8 g/cm^3 D. 45.6 g/cm^3

9. This chart lists the densities of various gemstones.

Densities of Gemstones

Gemstone	Density (g/cm^3)
Opal	2.20
Diamond	3.01
Garnet	3.15
Topaz	3.50

A gemstone has a mass of 6.24 g and a volume of 1.98 cm^3. What is the identity of the gemstone?

A. Opal B. Diamond

C. Garnet D. Topaz

10. This chart lists the densities of various gemstones.

Densities of Gemstones

Gemstone	Density (g/cm^3)
Opal	2.20
Diamond	3.01
Garnet	3.15
Topaz	3.50

What would be the volume of a diamond that has a mass of 20g?

A. 0.15 cm^3 B. 6.6 cm^3

C. 23.01 cm^3 D. 60.2 cm^3