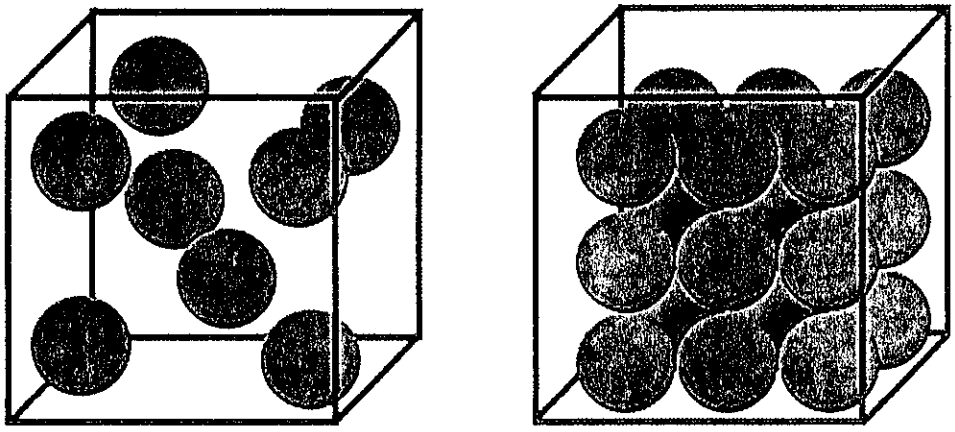
Density



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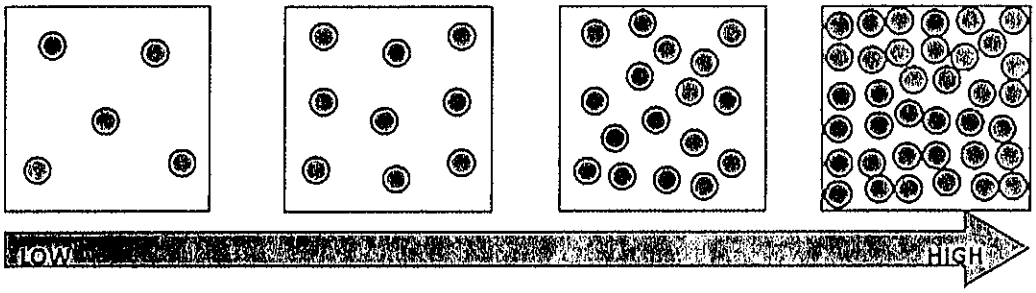
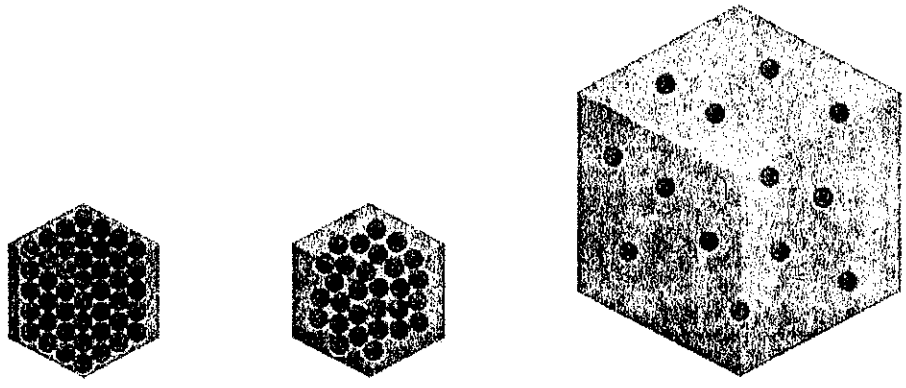




Density Practice Problems

1) A wooden block has a mass of 562 g and a volume of 72 cm^3. What is the density?

2) A foam square has a mass of 62 g and a volume of 72 cm^3. What is the density?

3) A brick has a mass of 562 g and a volume of 43 cm^3. What is the density?

4) A bottle of water has a volume of 560 mL and a mass of 1250 g. What is the density?

Density Practice Problems

Do the following density practice problems. Be sure to show all work and to use the correct units.

5) A soda has a volume of 560 mL and a density of 3.2 g/mL. What is the mass?

6) A wooden block has a volume of 176 cm^3 and a density of 18.2 g/ cm^3. What is the mass?

7) A soda has a mass of 1500 g and a density of 2.9 g/mL. What is the volume?

8) A wooden block has a mass of 986 g and a density of 16 g/ cm^3. What is the volume?

Name _____ Period _____ Date _____

Density Practice Problems

Density is the amount of mass per unit volume of a given object. It can be calculated using the following equation.

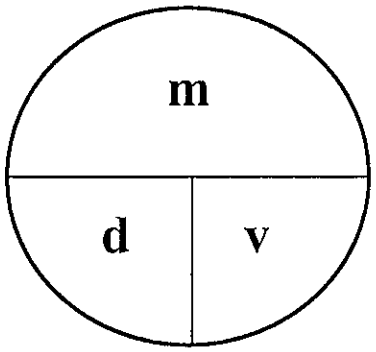
d=m/v

If the density of the object and either mass or volume is known, by rearranging the above equation.

m=d*v

v=m/d

These three equations can be easily remembered by using the circle below. Simply cover up the measurement you are trying to solve and you are left with the mathematical relationship of the remaining two.



For the problems below, show all work and box your final answers.

1. A platinum bar measures 5.0 cm long, 4.0 cm wide, and 1.5 cm thick. It has a mass of 700.0 grams.

    a. Calculate the volume of the platinum bar.

    b. Calculate the density of the platinum bar.

2. A lead cylinder has a mass of 540 grams and a density of 2.70 g/ml. Calculate the volume of the lead cylinder.

3. A cork has a mass of 3 grams and a volume of 16 cm^3. Calculate the density.

4. A thin glass bottle holds 25 ml of liquid and has a mass of 19 grams. Calculate the density.

5. A bar of soap is 12 cm tall, 6 cm wide, and 10 cm long. It has a mass of 415 grams. What is the density of the bar of soap.

6. A sheet of metal is 2 cm wide, 10 cm tall, and 15 cm long. It was 4 grams. What is the density?

7. A pencil has a density of .875 g/ml. It has a mass of 3.5 grams. What is the volume?

8. Find the mass of a 50.0 ml quantity of water if the density of water is 1.00 g/ml.

9. If the density of 45.0 cm^3 block of wood is 0.65 g/ml calculate the wood's mass.

Name_____

Density Practice Problem Worksheet

1) A block of aluminum occupies a volume of 15.0 mL and weighs 40.5 g. What is its density?

2) Mercury metal is poured into a graduated cylinder that holds exactly 22.5 mL. The mercury used to fill the cylinder weighs 306.0 g. From this information, calculate the density of mercury.

3) What is the weight of the ethyl alcohol that exactly fills a 200.0 mL container? The density of ethyl alcohol is 0.789 g/mL.

4) A rectangular block of copper metal weighs 1896 g. The dimensions of the block are 8.4 cm by 5.5 cm by 4.6 cm. From this data, what is the density of copper?

5) A flask that weighs 345.8 g is filled with 225 mL of carbon tetrachloride. The weight of the flask and carbon tetrachloride is found to be 703.55 g. From this information, calculate the density of carbon tetrachloride.

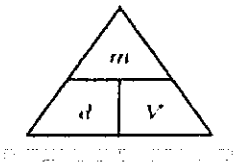
6) Calculate the density of sulfuric acid if 35.4 mL of the acid weighs 65.14 g.

7) Find the mass of 250.0 mL of benzene. The density of benzene is 0.8765 g/mL.

8) A block of lead has dimensions of 4.50 cm by 5.20 cm by 6.00 cm. The block weighs 1587 g. From this information, calculate the density of lead.

9) 28.5 g of iron shot is added to a graduated cylinder containing 45.50 mL of water. The water level rises to the 49.10 mL mark, from this information, calculate the density of iron.

10) What volume of silver metal will weigh exactly 2500.0 g. The density of silver is 10.5 g/cm3.



Density Practice Problem Worksheet

Remember to consider significant figures circle final answer; be sure to include units

1) A block of aluminum occupies a volume of 15.0 mL and a mass of 40.5 g. What is its density?

2) Mercury metal is poured into a graduated cylinder that to exactly 22.5 mL. The mercury used to fill the cylinder weighs 305.4 g. From this information, calculate the density of mercury.

3) What mass of the ethyl alcohol exactly fills a 200.0 mL container? The density of ethyl alcohol is 0.789 g/mL.

4) A rectangular block of copper metal weighs 1896 g. The dimensions of the block are 8.4 cm by 5.5 cm by 4.6 cm. From this data, what is the density of copper?

5) A flask that weighs 345.8 g is filled with 225 mL of carbon tetrachloride. The weight of the flask and carbon tetrachloride is found to be 703.55 g. From this information, calculate the density of carbon tetrachloride.

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10) What volume of silver metal will weigh exactly 2500.0 g. The density of silver is 10.5 g/cm3.