

Density calculations

NAME: _____

SCORE: ____ / 50

SET ONE

Solve the problems below with the density formula. Use the Guess problem solving method on all problems.

$$d = \frac{m}{V} \text{ where } m \text{ is measured in grams and } V \text{ is measured in cm}^3 \text{ or mL.}$$

1. Find the density of a box with a mass of 27 grams and a volume of 3 milliliters.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. Find the density of a crate with a mass of 50 grams and a volume of 2 milliliters

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. Find the density of a ball with a mass of 8 grams and a volume of 4 milliliters

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

4. Find the density of a package with a mass of 5 grams and a volume of 10 milliliters

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

5. Find the density of a rock with a mass of 150 grams and a volume of 3 milliliters

Given:

Equation:

Unknown:

Substitute and Solve:

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SET TWO

Solve the problems below with the formula for a **rectangular prism**. Use the Guess problem solving method on all problems.

$$V = l w d \text{ where } l, w \text{ and } d \text{ are measured cm.}$$

1. Find the volume of a rectangle that is 3 cm tall, 4 cm wide and 2 cm deep.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. What is the volume of a 56 cubic centimeter object in milliliters (mL)?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. What is the volume of a cube with edges 5 cm in length?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

4. Find the volume of a box that is 1 cm tall, 5 cm deep and 6 cm wide.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

5. What is the volume of a cube with edges 2 cm in length?

Given:

Equation:

Unknown:

Substitute and Solve:

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Check your work on this section at: <https://quizlet.com/149803253/flashcards>

SET THREE

Solve the problems below with the density formula. Use the Guess problem solving method on all problems.

$$d = \frac{m}{V} \text{ where } m \text{ is measured in grams and } V \text{ is measured in cm}^3 \text{ or mL.}$$

$$V = l w d \text{ where } l, w \text{ and } d \text{ are measured cm}$$

1. Find the density of 36 gram box rectangle that has dimensions of 2 cm by 3 cm by 2 cm.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. Find the density of a cube that has a mass of 32 grams if the edges are 2 cm long.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. Find the density of a cube that has a mass of 250 grams if the edges are 5 cm long.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

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SET FOUR

Solve the problems below with the density formula solved for mass. Use the Guess problem solving method on all problems.

$$m = d V \text{ where } d \text{ is measured in grams/mL and } V \text{ is measured in cm}^3 \text{ or mL.}$$

1. Find the mass of a rock if its density is 5 grams/ mL and its volume is 11 mL.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. You have a sample of a substance that has a density of 180 grams/mL. What is the mass of the sample if its volume is 2 mL?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. A block of plastic has a volume of 9 mL. Find its mass if the density of the plastic is 3 grams/mL.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

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SET FIVE

Solve the problems below with the density formula that is solved for mass. Use the Guess problem solving method on all problems.

$$V = \frac{m}{d} \text{ where } m \text{ is measured in grams and } d \text{ is measured in g/cm}^3 \text{ or g/mL.}$$

1. Find the volume of a sample if it has a density of 90 grams/mL. The sample's mass is 45 grams.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. You measure the mass of a rock as 160 grams. If this type of rock has a density of 10 grams/mL, find the volume of the rock.

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. You know that oil has a density of 0.9 grams/mL. If you have a container with 90 grams of oil, what is the volume of the oil?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

SET SIX

For these problems, you will need to select the appropriate equation. Solve the problems below with the density formula. Use the Guess problem solving method on all problems.

$$d = \frac{m}{V} \quad V = \frac{m}{d} \quad m = d V$$

where m is measured in grams, V is measured in cm^3 or mL and d is measured in g/cm^3 or g/mL

1. You have a 30 mL rock with a mass of 60 grams. What is its density?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

2. A 800 gram sample has a density of 200 grams/mL. What volume is the sample?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

3. A cube with 3 cm edges has a density of 2 grams/mL. What is the mass of the cube?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

4. A sphere with a density of 7 grams/mL has a mass of 56 grams. What is the volume of the sphere?

Given:

Equation:

Unknown:

Substitute and Solve:

I know that I will not get credit for my work or answer if I do not use the Guess Method,

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