

G.MG.2

Apply concepts of density based on area and volume in modeling situations, e.g., persons per square mile, BTUs per cubic foot. ★

G.MG.2

OH.2025.Q37

The density of gold is 19.32 grams (g) per cubic centimeter (cm). A solid rectangular block of gold with dimensions 5 cm by 9 cm by 21 cm is placed on a scale.

What is the mass, in grams, of the solid block of gold?

 g

G.MG.2

OH.2024.Q26

A baseball has a volume of 12.75 cubic inches (in.^3) and a mass of 144.585 grams (g).

What is the density, in grams per cubic inch, of the baseball?

 $\frac{g}{\text{in.}^3}$

G.MG.2

OH.2023.Q27

A brick has a mass of 2,022.75 grams and a volume of 1,064.5 cubic centimeters.

What is the density of the brick, in grams per cubic centimeter ($\frac{g}{\text{cm}^3}$)? Round your answer to the nearest tenth.

 $\frac{g}{\text{cm}^3}$

G.MG.2

OH.2022.Q23*

Westville has a land area of 84.4 square miles. In 2015, the population density was 22.5 people per square mile.

In 2016, the population was 2,000 people.

By how many people did the population of Westville increase between 2015 and 2016?

G.MG.2

OH.2018.Q11

Jeremy wants to know the density of a rock in grams per cubic centimeter. The rock has a mass of 1.08 kilograms and a volume of 400 cubic centimeters.

What is the density of the rock, in **grams** per cubic centimeter ($\frac{g}{cm^3}$)?

 $\frac{g}{cm^3}$

G.MG.2

OH.2017.Q12

A study reports that in 2010 the population of the United States was 308,745,538 people and the land area was approximately 3,531,905 square miles.

Based on the study, what was the population density, in people per square mile, of the United States in 2010? Round your answer to the nearest tenth.

 people per square mile

G.MG.2

OH.2016.Q1

In 2014, the population of Hong Kong was estimated to be approximately 7,112,688 people. The city covers an area of approximately 426.25 square miles.

What was the population density of Hong Kong in 2014, in people per square mile, rounded to the nearest person?