

**SM3 Geometry****Population Density**

Population Density: on average, how many people live on each square mile

$$\text{Population Density} = \frac{\text{Total Population}}{\text{Square Miles}}$$

1. In 2021, Salt Lake County's population was 1,185,238. The county is 807 square miles. What is the density in people per square mile of Salt Lake County? Round to the nearest tenth.
2. The population of Iron County is approximately 57,289 and the is area approximately 3,301 square miles. Calculate the population density in people per square mile of Iron County. Round to the nearest tenth.
3. Utah's population is approximately 3,338,000 with a population density of approximately 39.3 people per square mile. Approximately how big is the state of Utah in square miles? Round to the nearest mile.
4. Nevada is approximately 110,567 square miles. The population density of Nevada is 26.8 people per square mile. Approximate the population of Nevada. Round to the nearest whole person.
5. Colorado's population is approximately 5,820,000. The density of Colorado's population is 52 people per square mile. Estimate the size of Colorado in square miles. Round to the nearest mile.

## Volume

Rectangular Prism $V = l \cdot w \cdot h$	Triangular Prism: $V = \frac{1}{2} b \cdot h \cdot l$	Sphere $V = \frac{4}{3} \pi r^3$
Cylinder $V = \pi r^2 h$	Cone $V = \frac{1}{3} \pi r^2 h$	Pyramid with Square Base $V = \frac{1}{3} b^2 h$

6. A soda can is approximately 4.83 inches tall with a radius of 1.2 inches.
- How many cubic inches of soda can fit in the can?
  - 1 cubic inch is about 0.55 ounces. About how many ounces of soda are in the can?
7. An ice cream cone is 6 inches tall with a radius of 1 inch.
- How many cubic inches of ice cream can fit inside the cone?
  - One cubic inch is approximately equal to 16.4 milliliters (ml). How many ml of ice cream can fit inside the ice cream cone?
  - The density of ice cream is approximately .6 grams per millimeter. How many grams are in the ice cream cone?
8. A snowball has a radius of 0.1m
- What is the volume of the snowball in  $m^3$ ?
  - Snow has a density of 100 kg per  $m^3$ . How many kg of snow are in the snowball?