

Volume is the measure of space within a solid (3 dimensional) figure, such as a rectangular container, cube, cylinder, square pyramid, or cone. Volume is always expressed as a cubic measure (ex: cubic feet, cu ft, feet<sup>3</sup>, or ft<sup>3</sup>). Computing volume involves the use of formulas. Formulas are equations that help you work math problems.

Cubing a number ( $x^3$ ) means multiplying the number x the number x the number (ex:  $3^3 = 3 \times 3 \times 3 = 27$ ).

Select the best answer for the following questions and type it on the line provided.

1. Find the volume of a rectangular pool that is 8 feet wide, 6 feet deep and 10 feet long. \_\_\_\_\_
  - a. 68 ft<sup>3</sup>
  - b. 86 ft<sup>3</sup>
  - c. 480 ft<sup>3</sup>
  - d. 240 ft<sup>3</sup>
2. A cube has a side of 5 feet. What is the volume of the cube? \_\_\_\_\_
  - a. 15 ft<sup>3</sup>
  - b. 125 ft<sup>3</sup>
  - c. 150 ft<sup>3</sup>
  - d. 144 ft<sup>3</sup>
3. What is the volume of a cylinder with a radius of 4 ft. and a height of 8 feet? \_\_\_\_\_
  - a. 401.92 ft<sup>3</sup>
  - b. 200.96 ft<sup>3</sup>
  - c. 33.12 ft<sup>3</sup>
  - d. 58.24 ft<sup>3</sup>
4. The volume of a freezer with a length of 10 feet, and a height of 3 feet is 150 ft<sup>3</sup>. What is the width (w) of the freezer? \_\_\_\_\_
  - a. 120 ft
  - b. 15 ft
  - c. 4 ft
  - d. 5 ft
5. The volume of a square safe is 64 cubic feet. What is the length of each side? \_\_\_\_\_
  - a. 8 feet
  - b. 16 feet
  - c. 4 feet
  - d. 2 feet

6. Jack is building a cone shaped base for his flagpole. The base will be filled with cement for weight. If the cone has a 3-foot radius, and will stand 2 feet high, what is the volume of concrete it will hold?
- \_\_\_\_\_
- a.  $12.48 \text{ ft}^3$
  - b.  $18.84 \text{ ft}^3$
  - c.  $56.52 \text{ ft}^3$
  - d.  $62.8 \text{ ft}^3$
7. Sally is using cardboard to build a pyramid to place in her model for a social science presentation on Egyptian history. If the length of each side of the pyramid's base is 9 inches, and the height is 12 inches, what is the volume of her pyramid model? \_\_\_\_\_
- a. 36 inches<sup>3</sup>
  - b. 72 inches<sup>3</sup>
  - c. 108 inches<sup>3</sup>
  - d. 324 inches<sup>3</sup>