

Name: _____ Date: _____

Power Standard #8

PRACTICE TEST

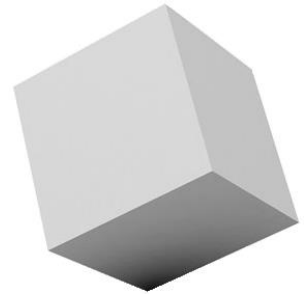
Vocabulary:

1) Area

- a. The distance around the outside of an object.
- b. The amount of space (square units) inside the boundaries of a flat, 2-dimensional object.
- c. The amount of space (square units) between the highest and the lowest measurements.
- d. The amount of cubic units inside the boundaries of a flat, 2-dimensional object.

2) Base

- a. The surface that a 3 dimensions solid stands on.
- b. The amount of space inside the boundaries of a flat, 2-dimensional object.
- c. The height of a 3 dimensional solid.
- d. The distance around the outside of an object.



3) Cubic

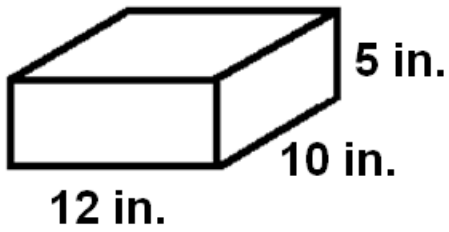
- a. The length of a 3 dimensional solid.
- b. Having 2 dimensions; a term that is used with the measurement of area.
- c. A term that is used with the measurement of liquids.
- d. Having the three dimensions of length, width and height. It is a term that is used with the measurement of volume.

4) Volume

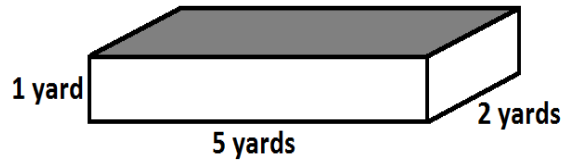
- a. The amount of cubic units inside the boundaries of a 3-dimensional object.
- b. The amount of cubic units inside the boundaries of a flat, 2-dimensional object.
- c. The distance around the outside of an object.
- d. A measure of the loudness or intensity of a sound.

5) Volume Formulas

- a. Length x Width x Height *or* Area of the Base x Length
- b. Length x Width x Height *or* Area of the Base x Height
- c. Length x Width x Height *or* Area of the Base x Width
- d. Length x Width x Height *or* Perimeter of the Base x Height

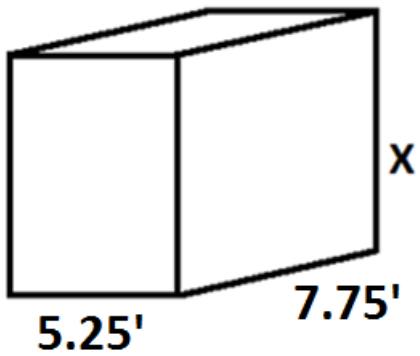


6) Volume = _____



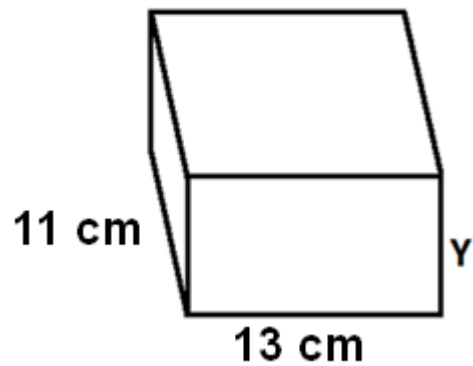
7) Volume = _____

Volume = 342.5625 ft^3

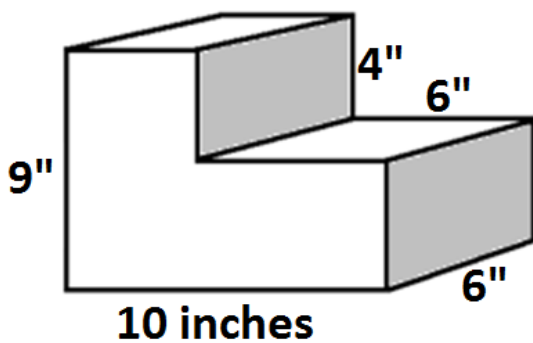


8) X = _____

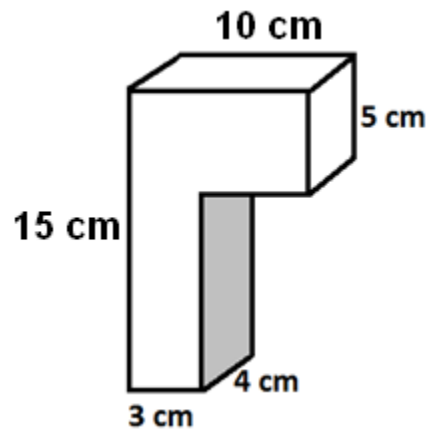
Volume = 715 cm^3



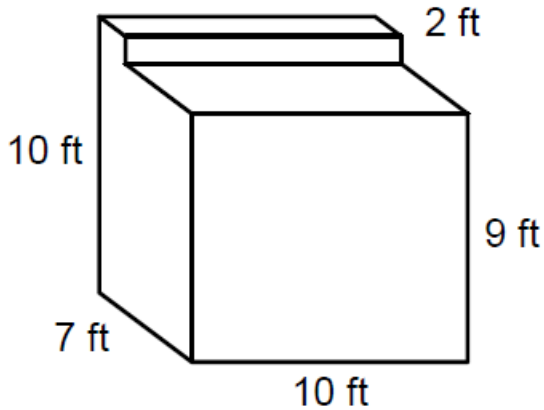
9) Y = _____



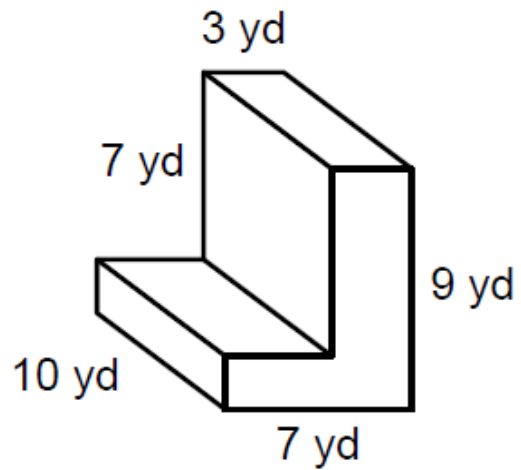
10) Volume = _____



11) Volume = _____



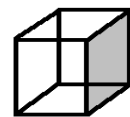
12) Volume = _____



13) Volume = _____

14) Jerry is building a swimming pool that will be 17 feet long, 10 feet wide, and 7 feet deep. If a cubic foot can hold 7.48 gallons of water, how many gallons will go into Jerry's pool?

15) Mrs. Jacobson wants to ship birthday presents (see picture below) to her family in the South. She would like to ship all of her gifts in one box. How many presents will Mrs. Jacobson be able to ship in a box that's 6.5 feet long, 3.5 feet wide, and 3.25 feet tall? Round your answer *down* to the nearest whole number.

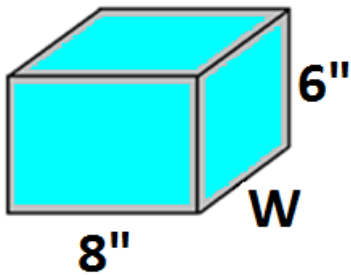


1 cubic foot

16) Jill is mailing two speakers in a large box. The box has a volume of 853 cubic inches. The speakers she will be shipping each have a base of 24 square inches and a height of 5 inches. The rest of the box will be filled with foam. What is the volume of the foam?



17) Mr. Renfro shipped a box with a volume of 336 cubic inches. Mr. Renfro's box was 8 inches long and 6 inches high. What was the width (W) of Mr. Renfro's box?



$$W = \underline{\hspace{2cm}}$$

Answers:

Vocabulary:

1) Area

- a. The distance around the outside of an object.
- b. The amount of space (square units) inside the boundaries of a flat, 2-dimensional object.
- c. The amount of space (square units) between the highest and the lowest measurements.
- d. The amount of cubic units inside the boundaries of a flat, 2-dimensional object.

2) Base

- a. The surface that a 3 dimensions solid stands on.
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- c. The height of a 3 dimensional solid.
- d. The distance around the outside of an object.

3) Cubic

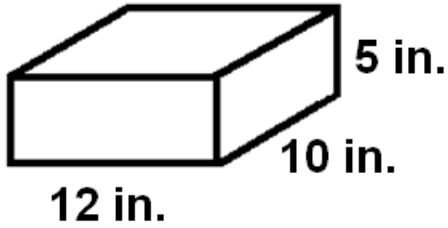
- a. The length of a 3 dimensional solid.
- b. Having 2 dimensions; a term that is used with the measurement of area.
- c. A term that is used with the measurement of liquids.
- d. Having the three dimensions of length, width and height. It is a term that is used with the measurement of volume.

4) Volume

- a. The amount of cubic units inside the boundaries of a 3-dimensional object.
- b. The amount of cubic units inside the boundaries of a flat, 2-dimensional object.
- c. The distance around the outside of an object.
- d. A measure of the loudness or intensity of a sound.

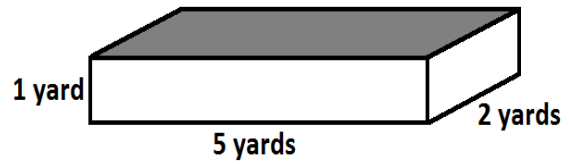
5) Volume Formulas

- a. Length x Width x Height *or* Area of the Base x Length
- b. Length x Width x Height *or* Area of the Base x Height
- c. Length x Width x Height *or* Area of the Base x Width
- d. Length x Width x Height *or* Perimeter of the Base x Height



6) Volume = _____

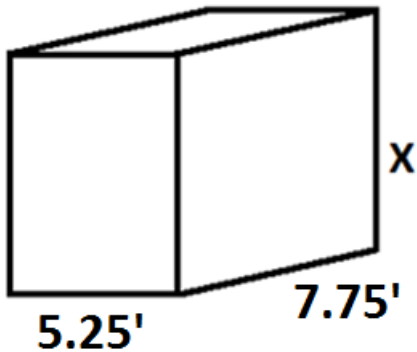
$$12 \times 10 \times 5 = \mathbf{600 \text{ in}^3}$$



7) Volume = _____

$$5 \times 2 \times 1 = \mathbf{10 \text{ yards}^3}$$

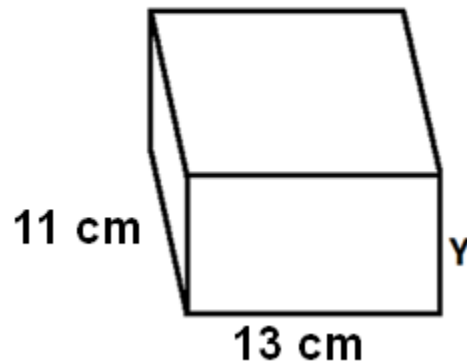
$$\text{Volume} = 342.5625 \text{ ft}^3$$



8) X = _____

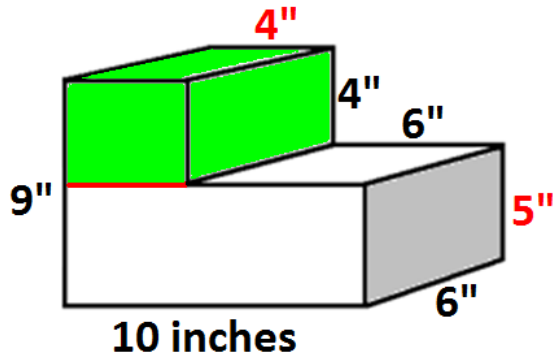
$$342.5625 \div (5.25 \times 7.75) = \mathbf{8.419}$$

$$\text{Volume} = 715 \text{ cm}^3$$



9) Y = _____

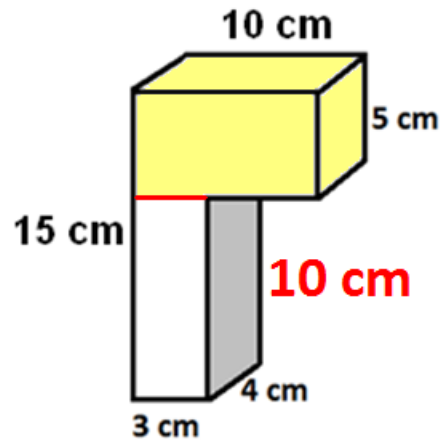
$$715 \div (11 \times 13) = \mathbf{5 \text{ cm}}$$



10) Volume = 396 in³

$$10 \times 6 \times 5 = 300$$

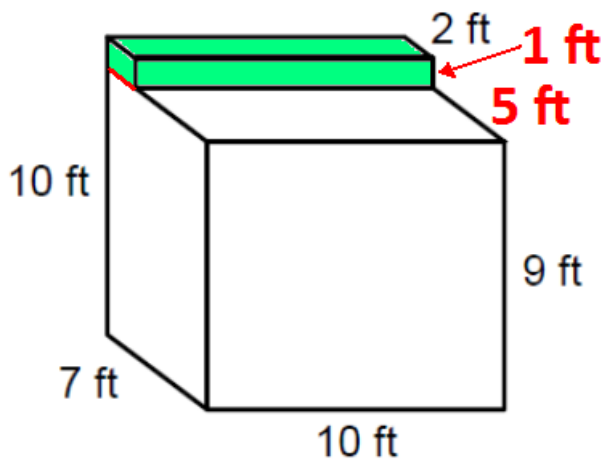
$$4 \times 6 \times 4 = 96$$



11) Volume = 320 cm³

$$3 \times 4 \times 10 = 120$$

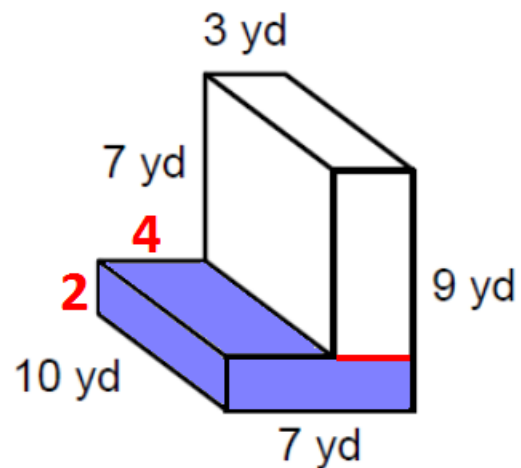
$$10 \times 4 \times 5 = 200$$



12) Volume = 650 ft³

$$10 \times 7 \times 9 = 630$$

$$10 \times 2 \times 1 = 20$$



13) Volume = 350 yards³

$$7 \times 10 \times 2 = 140$$

$$3 \times 10 \times 7 = 210$$

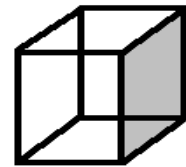
14) Jerry is building a swimming pool that will be 17 feet long, 10 feet wide, and 7 feet deep. If a cubic foot can hold 7.48 gallons of water, how many gallons will go into Jerry's pool?

$$17 \times 10 \times 7 = 1,190 \text{ cubic feet}$$

$$1,190 \times 7.48 = 8,901.2 \text{ gallons of water}$$

15) Mrs. Jacobson wants to ship birthday presents (see picture below) to her family in the South. She would like to ship all of her gifts in one box. How many presents will Mrs. Jacobson be able to ship in a box that's 6.5 feet long, 3.5 feet wide, and 3.25 feet tall? Round your answer *down* to the nearest whole number.

$$6.5 \times 3.5 \times 3.25 = 73.9375 = 73 \text{ presents}$$



1 cubic foot

16) Jill is mailing two speakers in a large box. The box has a volume of 853 cubic inches. The speakers she will be shipping each have a base of 24 square inches and a height of 5 inches. The rest of the box will be filled with foam. What is the volume of the foam?

$$\text{Volume of box} = 853 \text{ in}^3$$

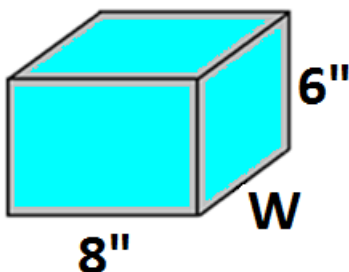
$$\text{Volume of speaker \#1} = 24 \times 5 = 120 \text{ in}^3$$

$$\text{Volume of speaker \#2} = 24 \times 5 = 120 \text{ in}^3$$

$$853 - 120 - 120 = 613$$

$$\text{Volume of foam} = 613 \text{ in}^3$$

18) Mr. Renfro shipped a box with a volume of 336 cubic inches. Mr. Renfro's box was 8 inches long and 6 inches high. What was the width (W) of Mr. Renfro's box?



$$336 \div (8 \times 6) = 7 \text{ inches}$$

$$W = \underline{\hspace{2cm}}$$