

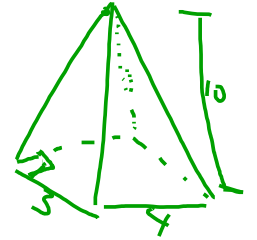
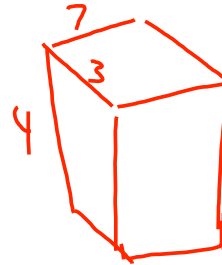
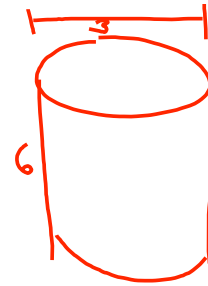
Day 5 - Volume

- How many cubes fit into an object
- 3 Dimensional Measure
- Units are Cubed
- Use your reference sheet

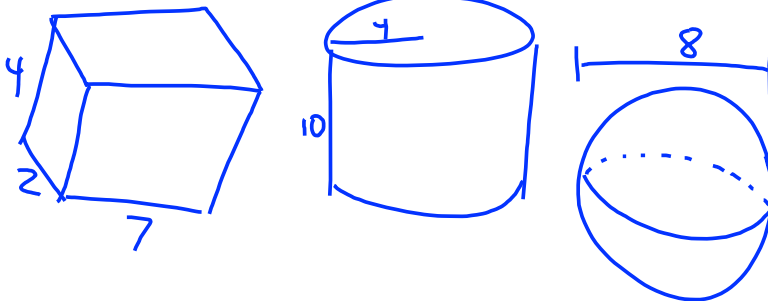


Volume

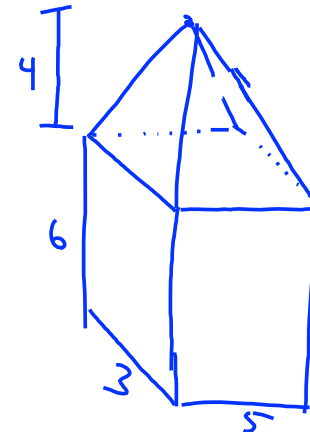
Examples



Your Turn - find the volume

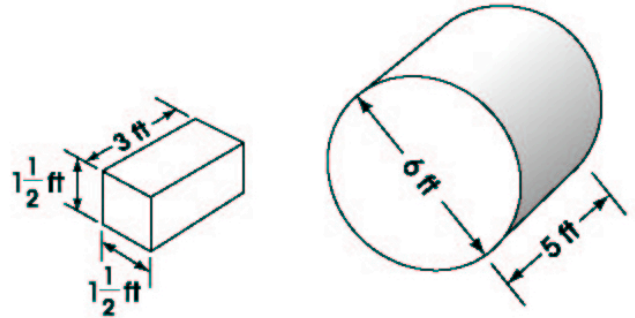


Examples of adding volumes



1. Mr. Anderson has machinery on his farm that allows him to bale hay two different ways: "round" and "square."

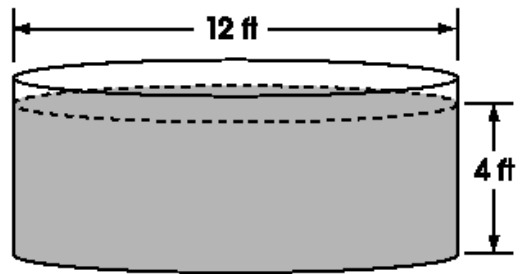
Approximately how many "square" bales contain the same amount of hay as one "round" bale?



- A. 14 B. 17 C. 21 D. 84

2. A circular pool has a diameter of 12 feet.

About how much water is needed to fill the pool to a depth of 4 feet?



- A. 75 cubic feet B. 150 cubic feet
C. 450 cubic feet D. 1,800 cubic feet

3. Bart has a cylindrical pitcher with a radius of 6 cm and a height of 12 cm. He pours 1,300 cubic centimeters of lemonade into the pitcher. Approximately how much more lemonade will the pitcher hold?

- A. 36 cubic centimeters B. 57 cubic centimeters
C. 622 cubic centimeters D. 1,357 cubic centimeters

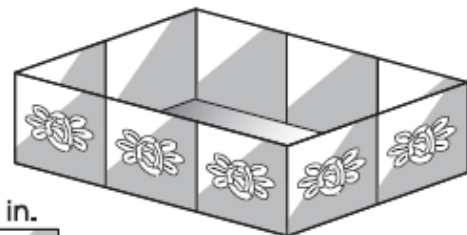
4. An aquarium is 60 centimeters long, 20 centimeters wide and 30 centimeters high. What volume of water, in cubic centimeters, does the aquarium contain if it is $\frac{2}{3}$ full?

- A. $1,200 \text{ cm}^3$ B. $11,000 \text{ cm}^3$ C. $24,000 \text{ cm}^3$ D. $36,000 \text{ cm}^3$

5. Madison is filling balloons with helium. When full, the balloons are nearly spherical in shape with a diameter of 12 inches. What is the approximate volume of each balloon when it is full?

- A. 115 cubic inches B. 450 cubic inches
C. 680 cubic inches D. 900 cubic inches

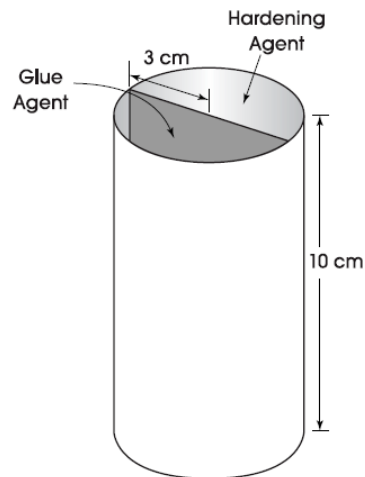
6. Artie constructed a decorative planter using ten 4-inch squares attached to a rectangular base as shown below.



What is the volume of his planter?

- A. 160 cubic inches B. 192 cubic inches
C. 256 cubic inches D. 384 cubic inches

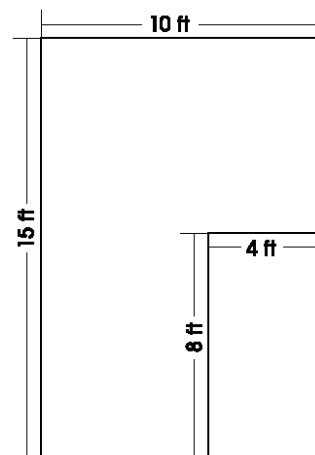
7. A compound glue comes in a cylindrical tube divided down the middle to separate the glue agent from the hardening agent as shown.



What is the approximate volume of the section of the tube containing the hardening agent?

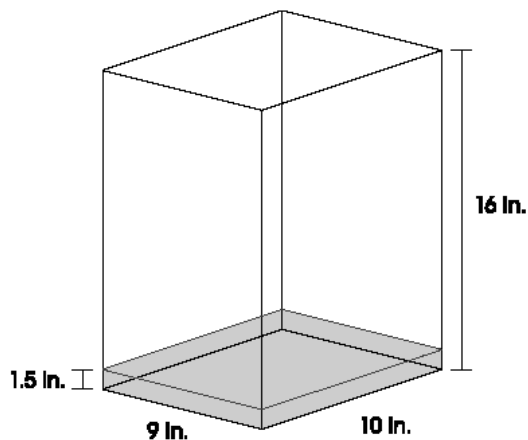
- A. 71 cm^3
- B. 141 cm^3
- C. 424 cm^3
- D. 565 cm^3

8. A diagram of the floor plan of a storage room is shown below. If the ceiling is 12 feet above the floor, what is the capacity of the storage room, in cubic feet?



- A. 118 ft^3
- B. 600 ft^3
- C. $1,416 \text{ ft}^3$
- D. $1,800 \text{ ft}^3$

9. Lester keeps his frog in a glass container with the dimensions shown below. He pours water into the container to a height of 1.5 inches. What is the volume of water in the container?

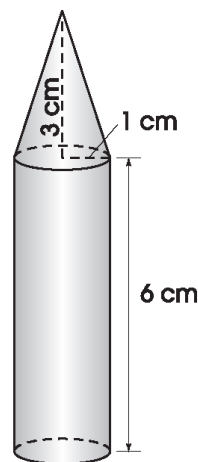


- A. 135 cubic inches
- B. 216 cubic inches
- C. 1,440 cubic inches
- D. 2,160 cubic inches

10. Marny wants to approximate the amount of wax needed to make a crayon. The dimensions of the crayon are shown below.

About how many cubic centimeters of wax are needed to make this crayon?

- A. 18 cm^3
- B. 22 cm^3
- C. 28 cm^3
- D. 88 cm^3



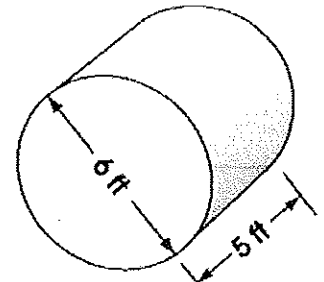
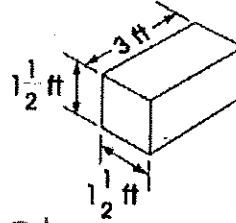
1. Mr. Anderson has machinery on his farm that allows him to bale hay two different ways: "round" and "square."

Approximately how many "square" bales contain the same amount of hay as one "round" bale?

- A. 14 B. 17 **C. 21** D. 84

$$V = \left(\frac{1}{2}\right)\left(\frac{1}{2}\right)3$$

$$= 6.75$$



$$V = 5 \cdot (3.14 \cdot 3^2)$$

$$\frac{141.3}{6.75} = 21$$

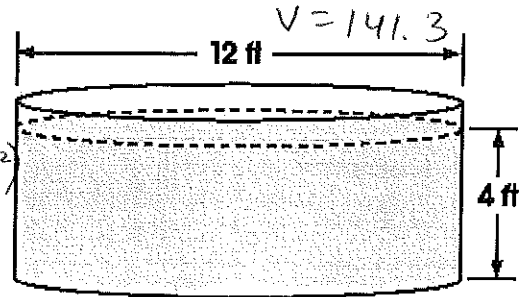
2. A circular pool has a diameter of 12 feet.

About how much water is needed to fill the pool to a depth of 4 feet?

- A. 75 cubic feet B. 150 cubic feet
C. 450 cubic feet D. 1,800 cubic feet

$$V = 4 (3.14 \cdot 6^2)$$

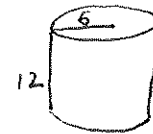
$$V = 452$$



$$V = 141.3$$

3. Bart has a cylindrical pitcher with a radius of 6 cm and a height of 12 cm. He pours 1,300 cubic centimeters of lemonade into the pitcher. Approximately how much more lemonade will the pitcher hold?

- A. 36 cubic centimeters **B. 57 cubic centimeters**
C. 622 cubic centimeters D. 1,357 cubic centimeters



$$V = 12 (3.14 \cdot 6^2)$$

$$V = 1356.5$$

$$1356 - 1300 = 56.5$$

4. An aquarium is 60 centimeters long, 20 centimeters wide and 30 centimeters high. What volume of water, in cubic centimeters, does the aquarium contain if it is $\frac{2}{3}$ full?

- A. 1,200 cm³ B. 11,000 cm³ **C. 24,000 cm³** D. 36,000 cm³



$$V = 30 \cdot 20 \cdot 60$$

$$V = 36000$$

5. Madison is filling balloons with helium. When full, the balloons are nearly spherical in shape with a diameter of 12 inches. What is the approximate volume of each balloon when it is full?

- A. 115 cubic inches B. 450 cubic inches
C. 680 cubic inches **D. 900 cubic inches**

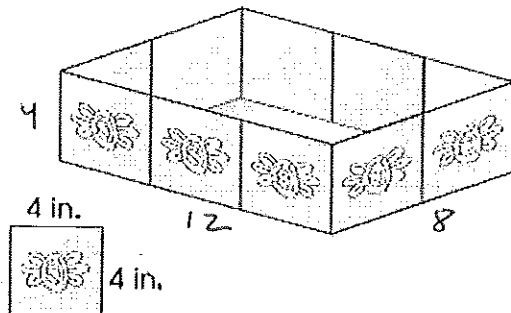
$$V = \frac{4}{3} \pi r^3$$

$$\frac{4}{3} \cdot 3.14 \cdot 6^3 = 904$$

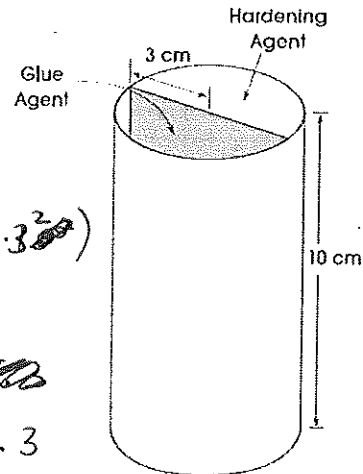
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7. A compound glue comes in a cylindrical tube divided down the middle to separate the glue agent from the hardening agent as shown.



What is the approximate volume of the section of the tube containing the hardening agent?

- A. 71 cm³
- B. 141 cm³**
- C. 424 cm³
- D. 565 cm³

$$V = 10(3.14 \cdot 3^2)$$

$$V = 282.6$$

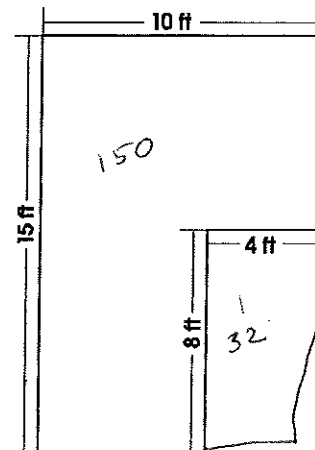
$$\frac{1}{2}(282.6) = 141.3$$

8. A diagram of the floor plan of a storage room is shown below. If the ceiling is 12 feet above the floor, what is the capacity of the storage room, in cubic feet?

- A. 118 ft³
- B. 600 ft³
- C. 1,416 ft³**
- D. 1,800 ft³

$$V = 12(118)$$

$$V = 1416$$

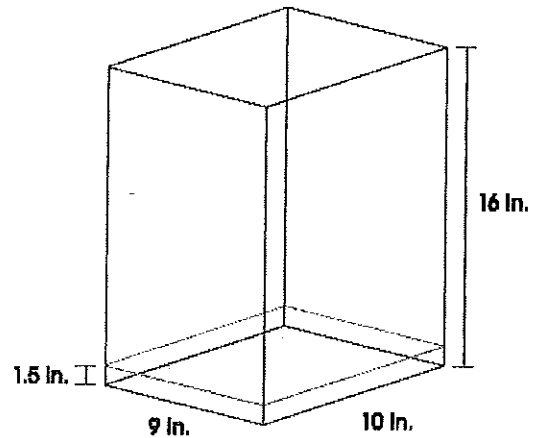


Area of Floor
150 - 32
118

9. Lester keeps his frog in a glass container with the dimensions shown below. He pours water into the container to a height of 1.5 inches. What is the volume of water in the container?

- A. 135 cubic inches**
- B. 216 cubic inches
- C. 1,440 cubic inches
- D. 2,160 cubic inches

$$V = 9 \cdot 10 \cdot 1.5$$



10. Marny wants to approximate the amount of wax needed to make a crayon. The dimensions of the crayon are shown below.

About how many cubic centimeters of wax are needed to make this crayon?

- A. 18 cm³
- B. 22 cm³**
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