

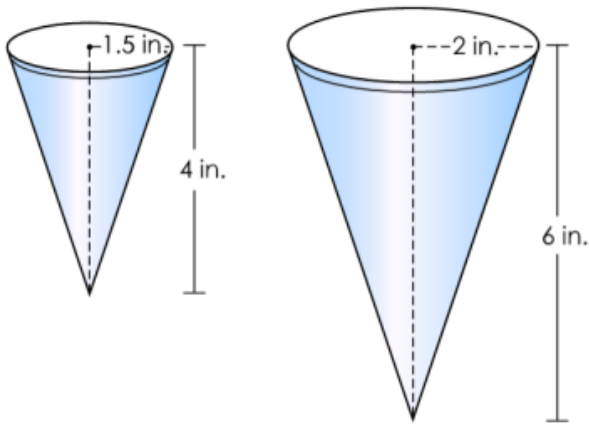
Surface Area and Volume

1. Happyville has a land area of 84.4 square miles. In 2018, the population density was 22.5 people per square mile. In 2019, the population was 2,000 people.

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

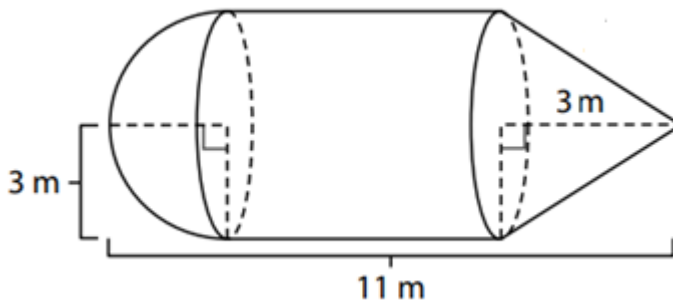
- A. 89
- B. 101
- C. 1899
- D. 3189

2. A doctor's office is deciding between buying 2 different sized cups. The two cups are shown.



Before deciding which size cup to buy, they determine how much water each cup can hold. How much more water, in cubic inches, can the larger cup hold than the smaller cup? Round your answer to the nearest hundredth.

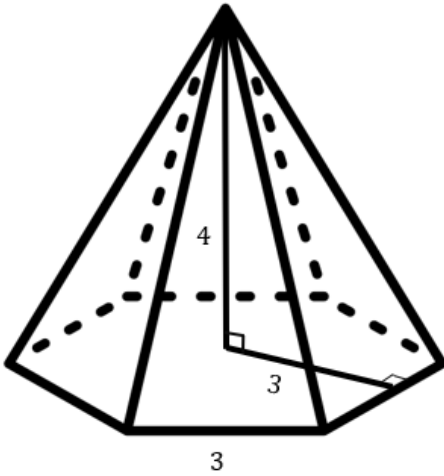
- A. 6.28 cubic inches
 - B. 15.71 cubic inches
 - C. 25.13 cubic inches
 - D. 46.83 cubic inches
3. Find the volume of the figure below composed of a cone, a cylinder, and a hemisphere. Round your answer to the nearest tenth.



- A. $210.5 m^2$
- B. $267.0 m^2$
- C. $311.0 m^2$
- D. $395.8 m^2$

Surface Area and Volume

4. The regular hexagonal pyramid shown below has a base edge of 3 units and an apothem of 3 units. If the height of the pyramid is 4 units, what is the surface area of the pyramid in square units?



- A. 27
- B. 45
- C. 63
- D. 72

Figure not drawn to scale.

5. Two similar hexagonal prisms have volumes of 250 cubic feet and 2 cubic feet. What is the ratio of the height of the large cylinder to the height of the small cylinder?
- A. 5:1
 - B. 25:4
 - C. 125:1
 - D. 125:8