English Spanish

7.2 Exercises

Check It Out
Help with Homework
BigIdeasMath.com

Vocabulary and Concept Check

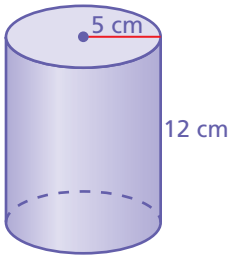
1. **DIFFERENT WORDS, SAME QUESTION** Which is different? Find "both" answers.

How much does it take to fill the cylinder?

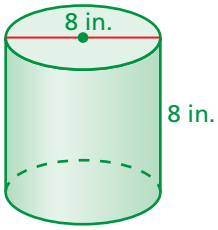
What is the capacity of the cylinder?

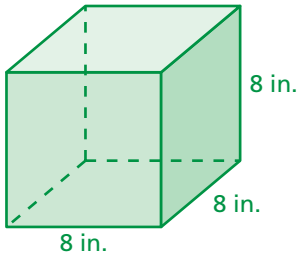
How much does it take to cover the cylinder?

How much does the cylinder contain?



2. **REASONING** Without calculating, which of the solids has the greater volume? Explain.



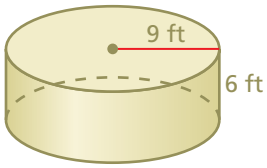


Practice and Problem Solving

Find the volume of the cylinder. Round your answer to the nearest tenth.

1

3.



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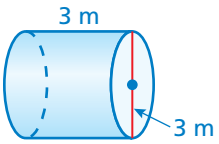

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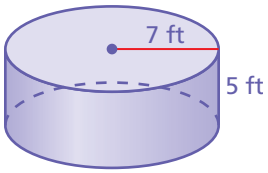

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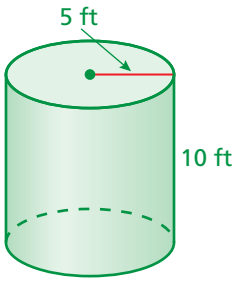

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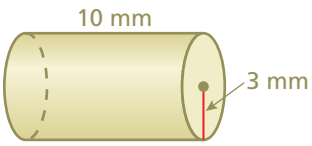

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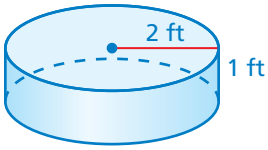

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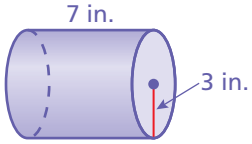

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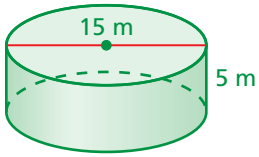

11.

4 12. **SWIMMING POOL** A cylindrical swimming pool has a diameter of 16 feet and a height of 4 feet. About how many gallons of water can the pool contain? Round your answer to the nearest whole number. ($1 \text{ ft}^3 \approx 7.5$ gal)

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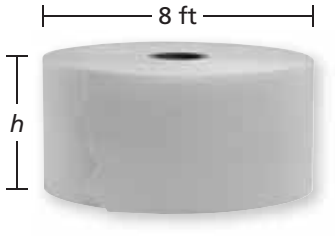
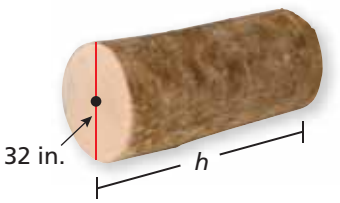
Find the height of the cylinder. Round your answer to the nearest whole number.

2 **13.** Volume = 250 ft^3

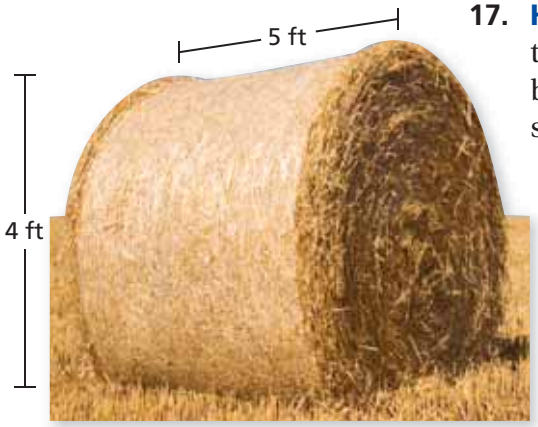


14. Volume = 32,000 $in.^3$



15. Volume = 600,000 cm^3

16. CRITICAL THINKING How does the volume of a cylinder change when its diameter is halved? Explain.



Round Hay Bale

17. HAY BALES A traditional "square" bale of hay is actually in the shape of a rectangular prism. Its dimensions are 2 feet by 2 feet by 4 feet. How many "square" bales contain the same amount of hay as one large "round" bale?

18. ROAD ROLLER A tank on the road roller is filled with water to make the roller heavy. The tank is a cylinder that has a height of 6 feet and a radius of 2 feet. One cubic foot of water weighs 62.5 pounds. Find the weight of the water in the tank.

19. VOLUME A cylinder has a surface area of 1850 square meters and a radius of 9 meters. Estimate the volume of the cylinder to the nearest whole number.

20. Critical Thinking Water flows at 2 feet per second through a pipe with a diameter of 8 inches. A cylindrical tank with a diameter of 15 feet and a height of 6 feet collects the water.

a. What is the volume, in cubic inches, of water flowing out of the pipe every second?

b. What is the height, in inches, of the water in the tank after 5 minutes?

c. How many minutes will it take to fill 75% of the tank?

Fair Game Review What you learned in previous grades & lessons

Write and solve an equation to answer the question. SECTION 4.1

21. 50% of 200 is what number?

22. 80% of 400 is what number?

23. MULTIPLE CHOICE The variables x and y vary directly. When x is 18, y is 24. Which equation relates x and y? SECTION 3.7

(A) $y = \frac{3}{4}x$ (B) $y = 2x - 12$ (C) $y = 4x - 3$ (D) $y = \frac{4}{3}x$