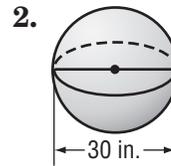
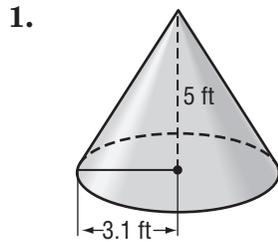


Test, Form 3A

For Exercises 1–4, find the volume of each solid. Round to the nearest tenth if necessary.



1. 50.3 ft³

2. 14,137.2 in³

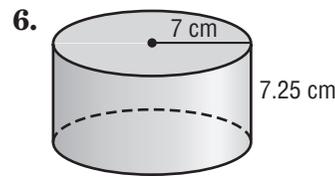
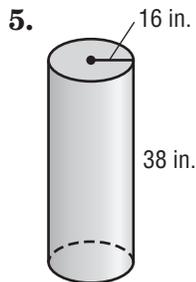
3. hemisphere: radius = 20 m

4. cylinder: radius = 3 m
height = 5.7 m

3. 16,755.2 m³

4. 161.2 m²

For Exercises 5–8, find the surface area of each solid. Round to the nearest tenth if necessary.



5. 5,428.7 in²

6. 163.4 yd²

7. cone: diameter = 12 m
slant height = 8.4 m

8. cylinder: diameter = 7 cm
height = 5.1 cm

7. 271.4 m²

8. 189.1 cm²

9. A beachball has a diameter of 12 inches. What is the volume to the nearest tenth?

9. 904.8 in³

10. The popcorn containers at a movie theater are in the shape of cones. Suppose a popcorn container has a diameter of 12 inches and a slant height of 20 inches. What is the lateral area of the popcorn container rounded to the nearest inch? Justify your answer.

$377 \text{ in}^2;$
 $L.A. = \pi r l$
 $= \pi \cdot 6 \cdot 20$
10. ≈ 377

11. The lateral area of a cone with a diameter of 10 centimeters is about 250.5 square centimeters. To the nearest tenth, what is the slant height of the cone?

11. 15.9 cm

Test, Form 3A *(continued)*

12. A container in the shape of a cone has a volume of 40 cubic units. Its base has an area of 15 square units. What is the height of the container?

12. 8 units

13. Marcos is buying paint to cover 10 cylindrical-shaped benches. Each bench has a diameter of 2 feet and a height of 3 feet. How much paint does Marcos need to buy? Round to the nearest tenth.

13. 251.3 ft²

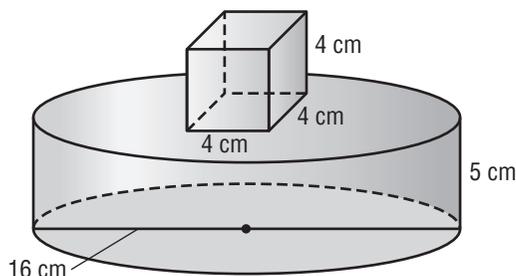
14. Julie is making 8 cone-shaped party hats for her sister's birthday party from cardboard. Each party hat has a radius of 5 inches and a slant height of 6 inches. How much cardboard does Julie need? Round to the nearest tenth.

14. 754.0 in²

15. Working separately, two bakers can make two wedding cakes in eight hours. Working at the same rate, how many wedding cakes can three bakers make in forty hours? Use the *solve a simpler problem* strategy.

15. 15 cakes

16. Find the volume of the composite shape. Round to the nearest tenth.



16. 1,069.3 cm³

17. The surface area of a pyramid is 327 square meters. What is the surface area of a similar pyramid that is smaller by a scale factor of $\frac{2}{3}$? Round to the nearest hundredth if necessary.

17. 145.33 in²

18. Solid A is similar to Solid B. Solid B has a volume of 23,000 cubic meters. By what scale factor can you multiply every side of Solid A to get Solid B if the volume of Solid A is 23 cubic meters?

18. 10

19. A cylinder has a volume of 26 cubic inches. If all the dimensions are multiplied by 3.2, what would be the volume of the new cylinder? Round to the nearest hundredth if necessary?

19. 851.97 in³