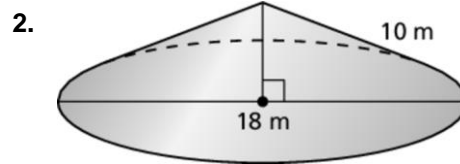
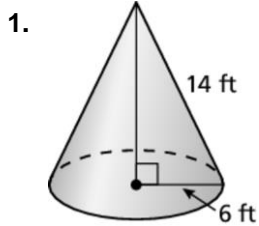


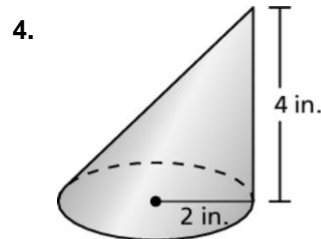
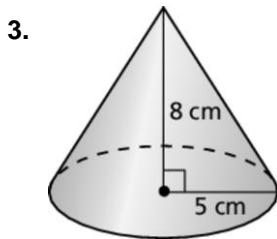
Name _____ Date _____

11.7 & 11.8 Surface Area & Volume of Cones & Spheres

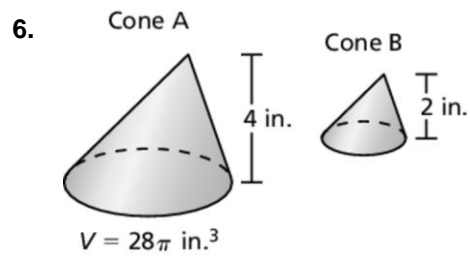
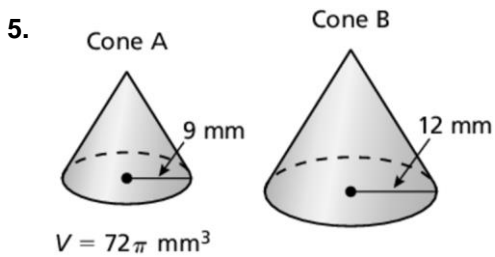
In Exercises 1 and 2, find the surface area of the right cone.



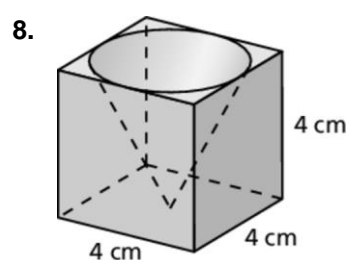
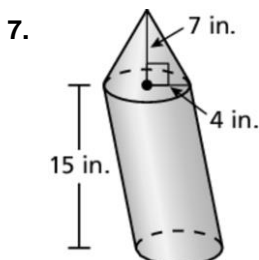
In Exercises 3 and 4, find the volume of the cone.



In Exercises 5 and 6, the cones are similar. Find the volume of Cone B.

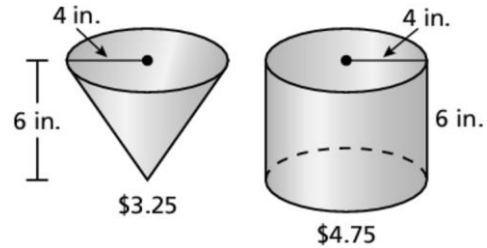


In Exercises 7 and 8, find the volume of the composite solid.



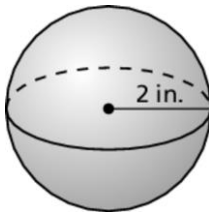
9. A cone has height h and a base with radius r . You want to change the cone so its volume is tripled. What is the new height if you only change the height? What is the new radius if you only change the radius? Explain.

10. A snack stand serves shaved ice in cone-shaped containers and cylindrical containers. Which container gives you more shaved ice for your money? Explain.

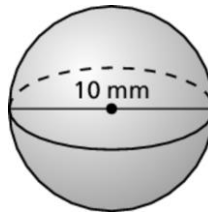


In Exercises 11–13, find the surface area of the sphere.

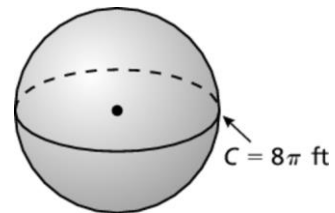
11.



12.



13.



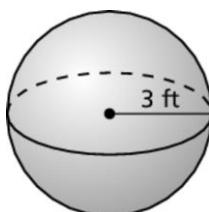
In Exercises 14 and 15, find the indicated measure.

14. the radius of a sphere with a surface area of 36π square meters

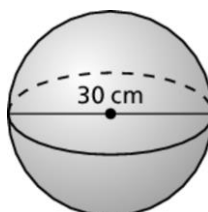
15. the diameter of a sphere with a surface area of 81π square yards

In Exercises 16–18, find the volume of the sphere.

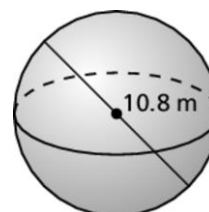
16.



17.



18.

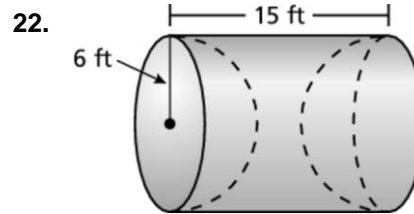
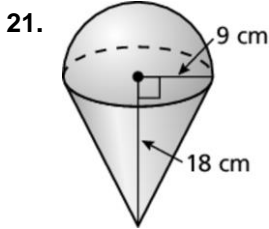


In Exercises 19 & 20, find the volume of the sphere with the given surface area.

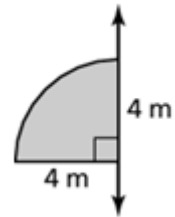
19. Surface Area = $4\pi \text{ in.}^2$

20. Surface Area = $676\pi \text{ km}^2$

In Exercises 21 & 22, find the volume of the composite solid.



23. Find the surface area and volume of the solid produced by rotating the figure at the right around the given axis.



24. A sphere is inscribed in a cube with a volume of 8 cubic yards. What is the surface area of the sphere? Explain your reasoning.

25. In 2000, the International Table Tennis Federation changed the official diameter of a table tennis ball from 38 millimeters to 40 millimeters. Without calculating surface areas and volumes, determine how the surface area and volume of the ball changed. Explain your reasoning. Find the surface areas and volumes to check your answer.