

**Geometry LT 7.1 Review**

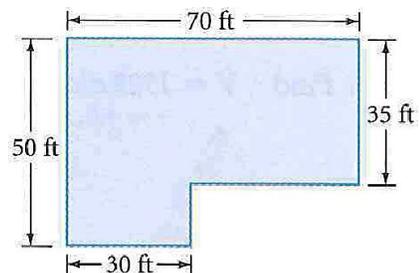
**Name** \_\_\_\_\_

1. At a movie theater, the “extra large” popcorn container is a right rectangular prism with dimensions 3 in. by 3 in. by 6 in. The “jumbo” is a cone with height 12 in. and diameter 8 in. The “colossal” is a right cylinder with diameter 10 in. and height 10 in. Find the surface area and volume of all three containers.

2. A prep chef has just made 12 meatballs. Each meatball has a 2-inch diameter. Right now, before the meatballs are added, the sauce is 2 inches from the top of the 14-inch-diameter pot. Will the sauce spill over when the chef adds the meatballs to the pot? Explain how you know.

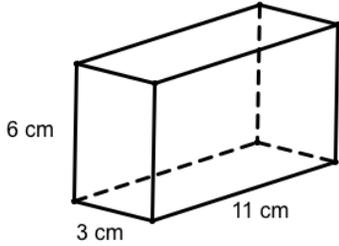
3. Guillermo wants to know if he can pick up a solid steel ball with a radius of 6 inches. He doesn't want to try to pick it up and throw out his back, so he does some calculations first. He knows that he can lift 200 pounds and steel has a density of  $0.28 \text{ lb/in}^3$ . To the nearest pound, what is the weight of the ball? Can Guillermo pick it up?

4. The blueprint for a cement floor is shown. How many cubic feet of cement are needed for ten identical floors that are each 3 inches thick?



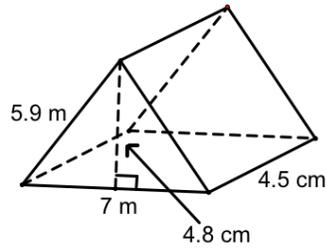
5. The volume of a cylinder is  $628 \text{ cm}^3$ . Find the radius of the base if the cylinder has a height of 8 cm.
6. Find the total surface area and the volume of a hemisphere with a diameter of 24 m.
7. Find the volume of a regular hexagonal prism. Each side of the hexagonal base measures 8 cm, the height of the prism is 16 cm, and the apothem measures  $4\sqrt{3}$  cm.
8. The base of a hemisphere has circumference  $32\pi$  cm. Find the volume of the hemisphere.
9. A triangular pyramid has a right triangle base and a height of 6 in. If the hypotenuse of the triangle is 10 in. and one of the legs is 8 in., find the other leg of the triangle to solve for the area of the base, and then find the volume of the pyramid.
10. The circumference of the base of a cone is approximately 43.98 feet and the height of the cone is 5 feet. Find the surface area of this cone.

11. Find the total surface area of the rectangular prism.



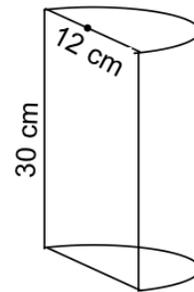
Total surface area = \_\_\_\_\_

12. Find the total surface area of the triangular prism.



Total surface area = \_\_\_\_\_

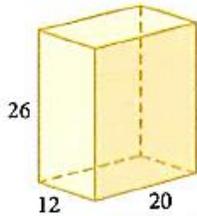
13. Find the total surface area. Write your answer as a decimal approximation.



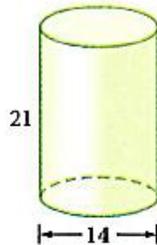
Total surface area  $\approx$  \_\_\_\_\_

For Exercises 3–8, find the volume of each solid. Each quadrilateral is a rectangle. All solids are right (not oblique). All measurements are in centimeters.

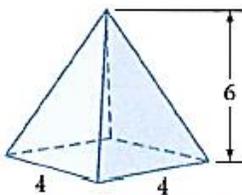
3.



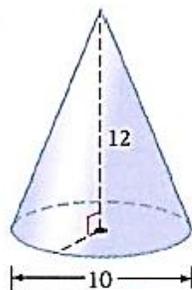
4.



6.



7.



8.

