

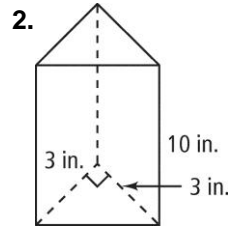
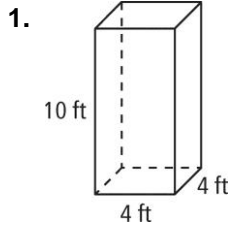
U9

Practice

Form G

Surface Areas of Prisms and Cylinders

Use a net to find the surface area of each prism. Round your answer to the nearest tenth, if necessary.



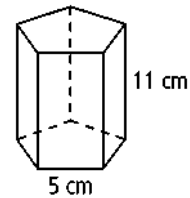
3. a. Classify the prism at the right.

b. The bases are regular pentagons. Find the lateral area of the prism.

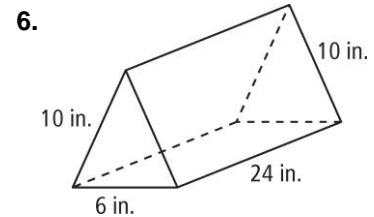
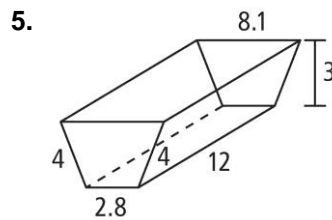
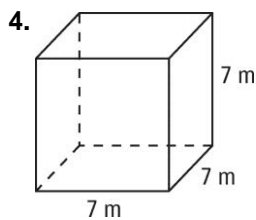
c. The area of each regular pentagon is 43 cm^2 .
Find the sum of their areas.

d. Find the surface area of the prism.

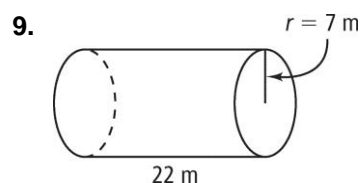
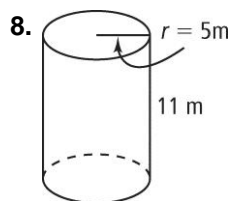
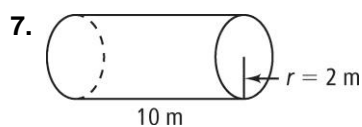
(Total surface area is implied when asked to find the surface area.)



Use formulas to find the lateral area and surface area of each prism. Round your answer to the nearest tenth, if necessary.

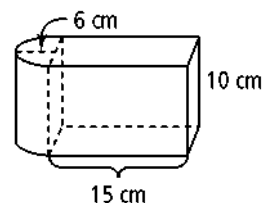


Find the lateral area of each cylinder to the nearest whole number. Think: the lateral edge of a cylinder takes what shape? A rectangle! What would be the length and width of this rectangle as it relates to the cylinder? Try a sketch to help you think it through.

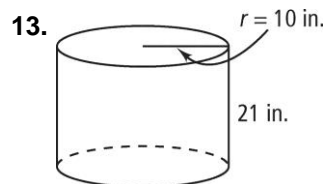
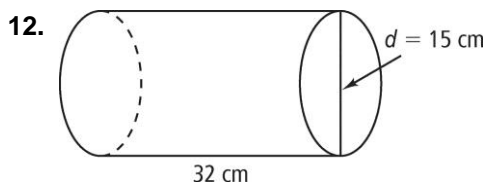


10. A box of cereal measures 8 in. wide, 11 in. high, and 2 in. deep. If all surfaces are made of cardboard and the total amount of overlapping cardboard in the box is 7 in², how much cardboard is used to make the cereal box?

11. Judging by appearances, what is the surface area of the solid shown at the right? Show your answer to the nearest whole number.



Find the surface area of each cylinder in terms of π .



14. a. A cylindrical container of paint with radius 6 in. is 15 in. tall. If all of the surfaces except the top are made of metal, how much metal is used to make the container? Assume the thickness of the metal is negligible. Show your answer to the nearest square inch.

b. If the top of the paint container is made of plastic, how much plastic is used to make the top? Assume the thickness of the plastic is negligible. Show your answer to the nearest square inch.

15. a. **Reasoning** Suppose that a cylinder has a radius of r units and a height of $2r$ units. The lateral area of the cylinder is 64π square units. What is the value of r ?

b. What is the surface area of the cylinder? Round your answer to the nearest square unit.

Visualization Suppose you revolve the plane region completely about the given line to sweep out a solid of revolution. Describe the solid and find its surface area in terms of π .

16. the x -axis

17. the y -axis

18. the line $x = 3$

19. the line $y = 2$

20. An artist creates a right prism whose bases are regular decagons. He wants to paint the surface of the prism. One can of paint can cover 32 square feet. How many cans of paint must he buy if the height of the prism is 11 ft and the length of each side of the decagon is 2.4 ft? The area of a base is approximately 89 ft².

21. **Open-Ended** Draw a cylinder with a surface area of 136π cm².

