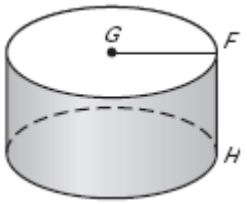
Worksheet Surface Area of Cylinders and Cones Name _____

Use the diagram at the right

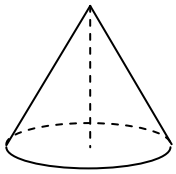
1) Give the mathematical name of the solid.
2) What kind of figure is each base?
3) Name the radius of the solid.
4) Name the height of the solid.



For problems 5-8 leave answers exact.

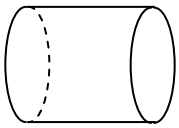
5) LA= _____ SA= _____

Height is 9 in., and slant height is 15 in.



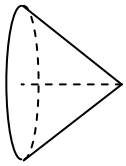
6) LA= _____ SA= _____

Height is 14 cm. and radius is 3 cm.



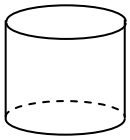
7) LA= _____ SA= _____

Diameter is 28 m., and height is 28 m.



8) LA= _____ SA= _____

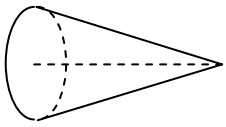
Diameter is 7 feet, and height is 11 feet



For problems 9-12, round to the nearest hundredth. Use $\pi = 3.14$.

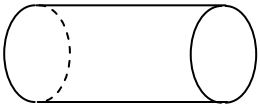
9) LA= _____ SA= _____

Diameter is 11 in., and slant height is 21 in.



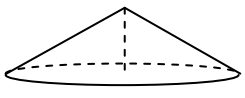
10) LA= _____ SA= _____

Height is 32 cm. and diameter is 5 cm.



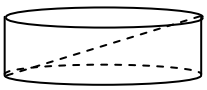
11) LA= _____ SA= _____

Diameter is 80 m., and height is 18 m.



12) LA= _____ SA= _____

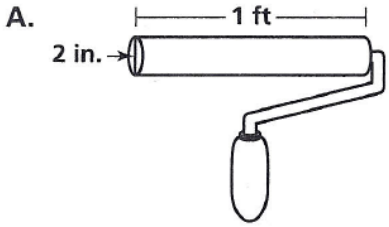
Diameter is 15 feet, and diagonal is 17 feet

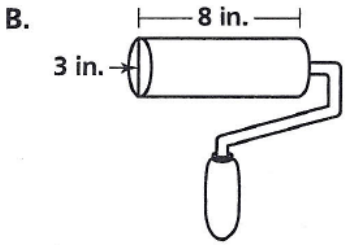


13) The surface area of a cylinder is 48π square feet. The radius of the cylinder is 3 feet. What is the height of the cylinder.

14) Find the radius and height of a cylinder with a surface area of 144π square millimeters. The radius and height of the cylinder are equal.

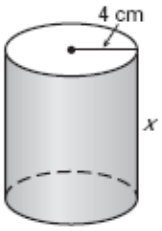
15) Paint roller A has a length of 1 ft. and a diameter of 2 in. Paint roller B has a length of 8 in. and a diameter of 3 in. Which roller can spread more paint on a wall in one revolution? Explain, and give your calculations.



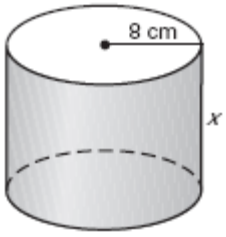


Solve for x given the surface area S of the right cylinder. Round your answer to two decimal places.

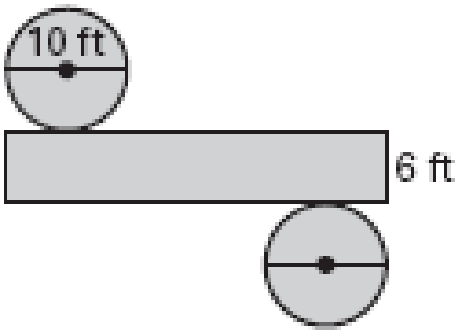
16) $S = 326.73 \text{ cm}^2$



17) $S = 1000 \text{ cm}^2$



18) Find the surface area of the following net.



Sketch the described solid and find its surface area. Give an exact answer.

19) A right cone has a radius of 3 feet and a height of 9 feet.

20) A right cone has a diameter of 12 meters and a slant height of 9 meters.

21) A Campbells' soup can is a cylinder that is 4 inches tall with a radius of 1.5 inches. Campbells will double the size of the can to increase sales of their soup. How much area is added to the new can's label?

22) Snow cone holders are sold in sleeves of 50. How much paper is needed for **each sleeve** if the cones are 4 inches tall and have a radius of 3 inches?

23) New Year's Eve party hats are in the shape of a cone. The hats are 12 inches tall and have a diameter of 10 inches. How much will it cost to create 1000 hats, if paper is $.75 per 144 square inches? (Remember hats do not have bottoms?)

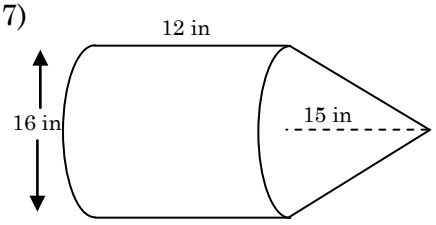
24) The Aquarium Downtown has a cylindrical fish tank that is 50 feet tall and 20 feet in diameter. Once the tank was built they had to apply a film to the outside of the tank to limit the light that came into the tank. How much film was needed to coat the tank? If the film is $1.50 per 20 square feet, then how much was spent on the film?

25) Tennis balls are sold in cylinders, and have a label on them that only covers half the side of the cylinder. This is done so buyers can see the bright colors of the balls in the container. If the cylinder is 14 inches tall and has a diameter of 4 inches, then what is the area of the label?

26) A Coke can is the shape of a cylinder with a height of 6 inches and a radius of 1.5 inches. How many cans can be made from a sheet of aluminum that is 10 feet long and 6 feet wide?

Find the exact surface area of the figure. Leave answers exact.

27)



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