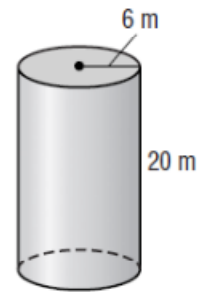
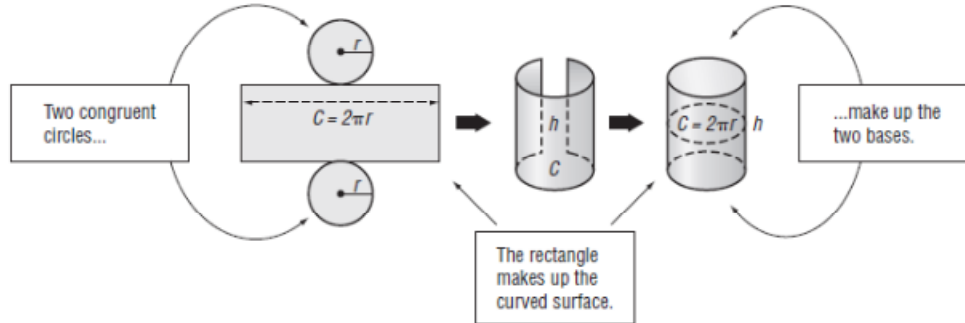


12-5 Study Guide and Intervention

Surface Area of Cylinders

The diagram below shows how you can put two circles and a rectangle together to make a cylinder.

The surface area of a cylinder equals the area of two bases plus the area of the curved surface.

$$S = 2(\pi r^2) + (2\pi r)h$$


In the diagram above, the length of the rectangle is the same as the circumference of the circle. Also, the width of the rectangle is the same as the height of the cylinder.

Example Find the surface area of the cylinder. Use 3.14 for π . Round to the nearest tenth.

$$S = 2\pi r^2 + 2\pi rh$$

Surface area of a cylinder.

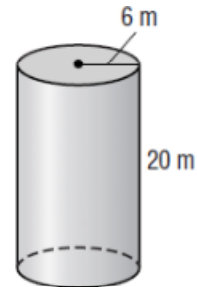
$$S = 2\pi(6)^2 + 2\pi(6)(20)$$

Replace π with 3.14, r with 6, and h with 20.

$$\approx 979.7$$

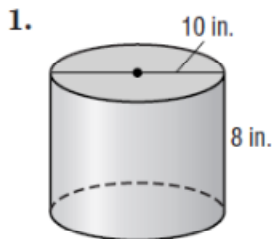
Simplify.

The surface area is about 979.7 square meters.

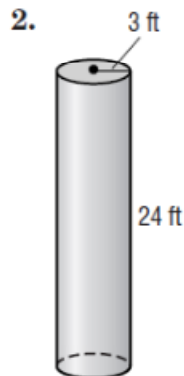


Exercises

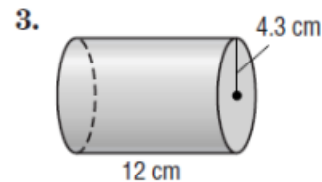
Find the surface area of each cylinder. Use 3.14 for π . Round to the nearest tenth.



408.2 in²



508.7 ft²



440.2 cm²