



Math Virtual Learning

Geometry

Surface Area of Cylinders

April 24, 2020



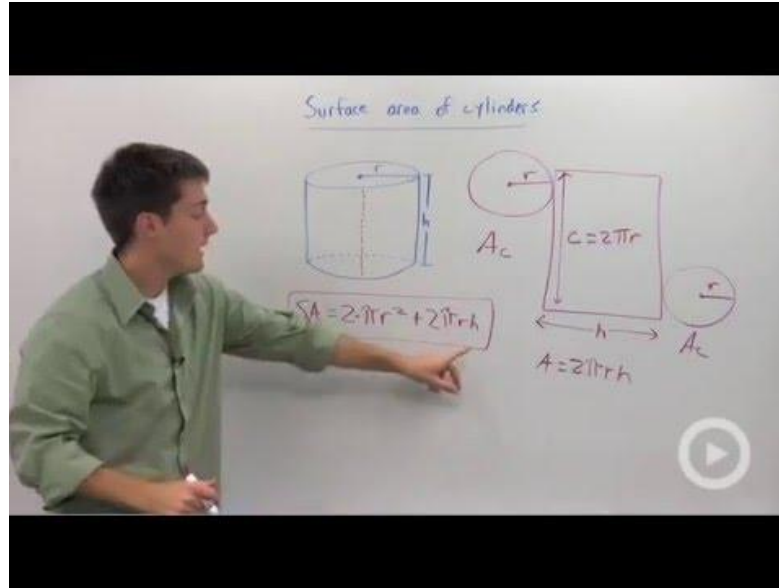
Geometry

Lesson: April 24, 2020

Objective/Learning Target:
Students will calculate the Surface Area of Cylinders.

Warm-Up:

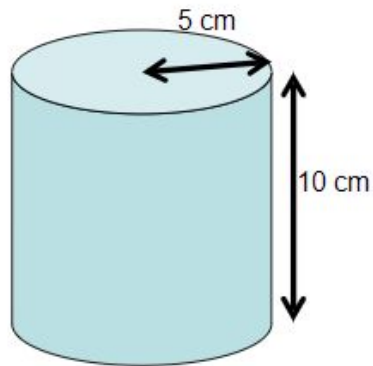
Watch Video:



Read Article: [Formula of Surface Area of Cylinder](#)

Example using the Net:

Surface area of a cylinder



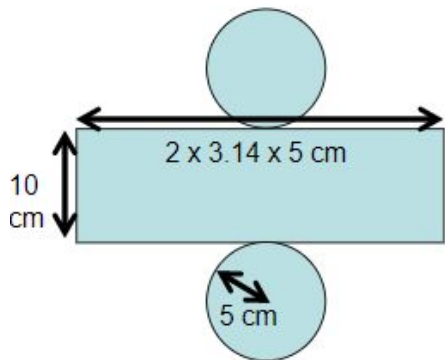
Find the surface area of a cylinder of radius 5 cm and height 10 cm

- Area of rectangle $= 2\pi rh$
 $= 2 \times 3.14 \times 5 \times 10$
 $= 314 \text{ cm}^2$

- Area of two ends $= 2\pi r^2$
 $= 2 \times 3.14 \times 5 \times 5$
 $= 157 \text{ cm}^2$

- Total surface area is $2\pi rh + 2\pi r^2$

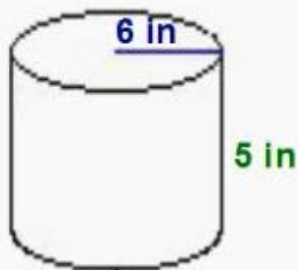
- Total surface area $= 314 + 157$
 $= 471 \text{ cm}^2$



Example using the Formula:

Finding the Surface Area of a Cylinder

$$\text{Surface Area} = 2\pi r^2 + 2\pi rh$$



$$\text{Area} = 2\pi(6)^2 + 2\pi(6)(5)$$

$$\text{Area} = 2\pi 36 + 2\pi 30$$

$$\text{Area} = 72\pi + 60\pi$$

$$\text{Area} = 132\pi \text{ in}^2 \text{ or}$$

$$\text{Area} = 414.48 \text{ in}^2$$

Step 1:

Find the radius and height.

Step 2:

Substitute and multiply.

Step 3:

Add.

Step 4:

Write the units.

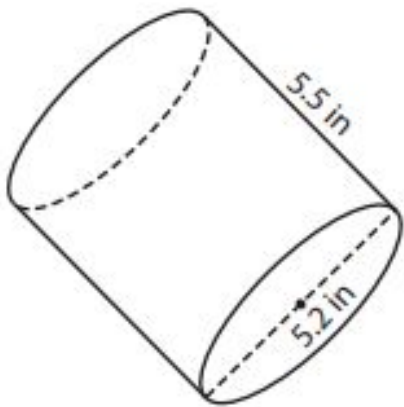
Another formula you can use is

$$\text{SA} = 2(\text{Area of base}) + \text{Lateral surface area}$$

Practice:

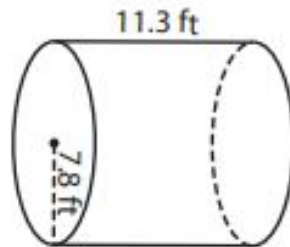
Find the surface area of each cylinder. Round your answer to two decimal places.
(use $\pi = 3.14$)

1)



Surface Area = _____

2)

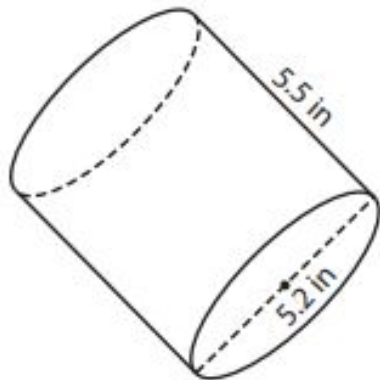


Surface Area = _____

Answer Key:

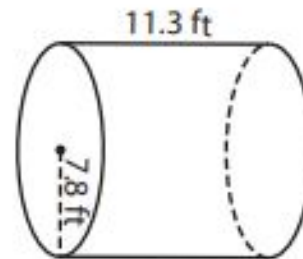
Once you have completed the problems, check your answers here.

1)



Surface Area = 132.26 in²

2)



Surface Area = 935.59 ft²

Additional Practice:

[Interactive Practice](#)

[Extra Practice with Answers](#)