

# Chapter 12 Surface Area and Volume

## 12.4 Surface Area of Cylinders

Pages 649-654

## NOTES (12.4) Surface Area of Cylinders

**\*Key Concept p 649\***

**Memorize!**

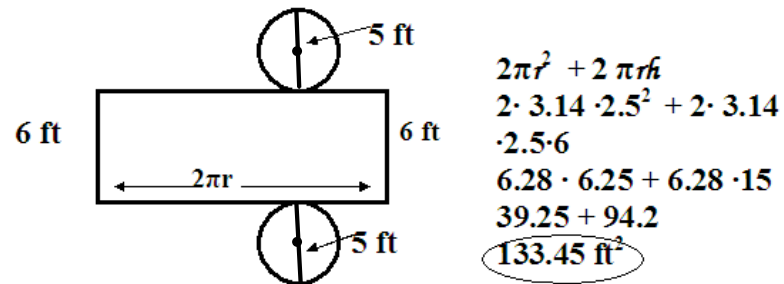
$$S = 2\pi r^2 + 2\pi rh$$

**Guided Practice pp 651 #2 = 1 pt**

1) The net for a cylinder consists of two circles and a rectangle.

**Do #4 like this (2 pts = net & answer)**

5)



$$\begin{aligned} &2\pi r^2 + 2\pi rh \\ &2 \cdot 3.14 \cdot 2.5^2 + 2 \cdot 3.14 \\ &\cdot 2.5 \cdot 6 \\ &6.28 \cdot 6.25 + 6.28 \cdot 15 \\ &39.25 + 94.2 \\ &133.45 \text{ ft}^2 \end{aligned}$$

**#6 = 1 pt**

**Do #8 like this**

$$\begin{aligned} 7) \quad & 2\pi r^2 + 2\pi rh \\ & 2 \cdot 3.14 \cdot 8^2 + 2 \cdot 3.14 \cdot 8 \cdot 19 \\ & 6.28 \cdot 64 + 6.28 \cdot 152 \\ & 401.92 + 954.56 \\ & 1356.48 \text{ cm}^2 \end{aligned}$$

**#10 = 2 pts**

**Do #12 like this**

$$\begin{aligned} 13) \quad & 2\pi r^2 + 2\pi rh \\ & 2 \cdot 3.14 \cdot 4.5^2 + 2 \cdot 3.14 \cdot 4.5 \cdot h = 141.3 \\ & 6.28 \cdot 20.25 + 6.28 \cdot 4.5 \cdot h = 141.3 \\ & 127.17 + 28.26h = 141.3 \\ & \cancel{127.17} - \cancel{127.17} + 28.26h = 141.3 - \cancel{127.17} \\ & \frac{28.26h}{28.26} = \frac{14.13}{28.26} \end{aligned}$$

$$h = 0.5 \text{ ft}$$

**#18 = 2 pts      # 26 = 2 pts      #28 = 2 pts**