

Chapter 12 Surface Area and Volume

12.6 Volume of Cylinders

Pages 662-680

NOTES (12.6) Volume of Cylinders

Memorize!

$$V = Bh \text{ -or- } V = \pi r^2 h$$

Guided Practice pp 664-666

Do #2,4,6 like this

$$5) V = \pi r^2 h$$

$$V = 3.14 \cdot 8^2 \cdot 8$$

$$V = 3.14 \cdot 64 \cdot 8$$

$$V = 3.14 \cdot 512$$

$$V = 1607.68 \text{ ft}^3$$

Hint: if given diameter, be sure to divide diameter by 2 for the radius

$$\begin{aligned} 7) V &= \pi r^2 h \\ V &= 3.14 \cdot 4^2 \cdot 9 \\ V &= 3.14 \cdot 16 \cdot 9 \\ V &= 3.14 \cdot 144 \\ V &= 452.16 \text{ cm}^3 \end{aligned}$$

8 = 2 pts
Do # 12 like this

$$\begin{aligned} 8) V &= \pi r^2 h \\ 25.12 &= 3.14 \cdot r^2 \cdot 8 \\ \frac{25.12}{25.12} &= \frac{25.12}{25.12} r^2 \\ 1 &= r^2 \\ \sqrt{1} &= r \\ r &= 1 \text{ cm} \end{aligned}$$

Do # 16 like this (subtract center)

15) Volume of whole solid

$$V = \pi r^2 h$$

$$V = 3.14 \cdot 5^2 \cdot 10$$

$$V = 3.14 \cdot 25 \cdot 10$$

$$V = 3.14 \cdot 250$$

$$V = 785 \text{ ft}^3$$

Volume of Hole

$$V = \pi r^2 h$$

$$V = 3.14 \cdot 2^2 \cdot 10$$

$$V = 3.14 \cdot 4 \cdot 10$$

$$V = 3.14 \cdot 40$$

$$V = 125.6 \text{ ft}^3$$

$$785.0$$

$$- \underline{125.6}$$

$$659.4$$

$$V = 659.4 \text{ ft}^3$$

18 = 2 pts

#22 = 2 pts

#28 = 1 pt