Geometry

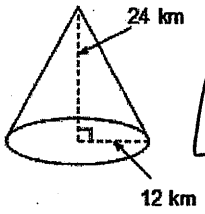
12-4 and 12-5 Volume of Cylinders and Cones

$V_{cylinder} = \pi r^2 h$

$V_{cone} = \frac{1}{3}\pi r^2 h$

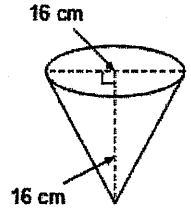
Key

Find the volume of each figure. Round your answers to the nearest hundredth, if necessary. Leave your answers in terms of π for answers that contain π.

1) 

$\frac{1}{3}\pi(12)^2 \cdot 24$

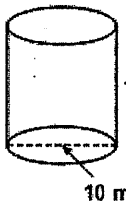
$V = 1152\pi \text{ km}^3$

2) 

$r = 8$

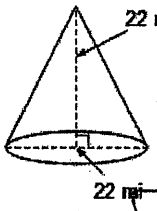
$V = \frac{1}{3}\pi(8)^2(16)$

$V = \frac{1024}{3}\pi \text{ cm}^3$

3) 

$\pi(5)^2 \cdot 11$

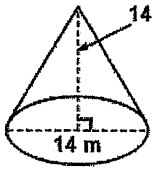
$V = 275\pi \text{ mi}^3$

4) 

$r = 11$

$V = \frac{1}{3}\pi(11)^2(22)$

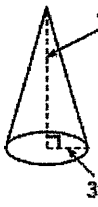
$V = \frac{2662}{3}\pi \text{ mi}^3$

5) 

$r = 7$

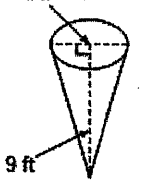
$V = \frac{1}{3}\pi(7)^2(14)$

$V = \frac{686}{3}\pi \text{ m}^3$

6) 

$V = \frac{1}{3}\pi(3)^2 \cdot 11$

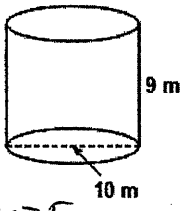
$V = 33\pi \text{ mi}^3$

7) 

$r = 2$

$V = \frac{1}{3}\pi(2)^2 \cdot 9$

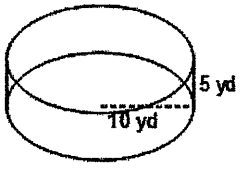
$V = 12\pi \text{ ft}^3$

8) 

$r = 5$

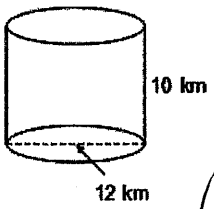
$V = \pi(5)^2 \cdot 9$

$V = 225\pi \text{ m}^3$

9) 

$V = \pi(10)^2(5)$

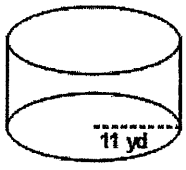
$V = 500\pi \text{ yd}^3$

10) 

$r = 6$

$V = \pi(6)^2 10$

$V = 360\pi \text{ km}^3$

11) 

$V = \pi(11)^2 11$

$V = 1331\pi \text{ yd}^3$

Geometry Name_____

Volume of Cylinders and Cones

Date_____ Period____

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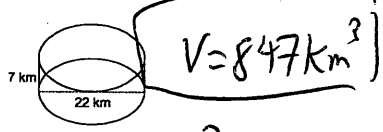
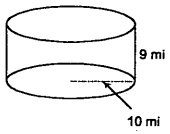
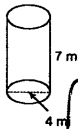
Find the volume of each figure. Round your answers to the nearest tenth, if necessary.

1) 

$V = 847 km^3$

$V = \pi(11)^2 \cdot 7$

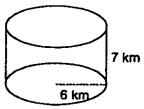
2) 

3) 

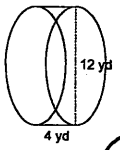
$V = \pi(2)^2 \cdot 7$

$V = 28\pi\ mi^3$

$r = 2$

4) 

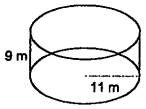
Find the volume of each figure. Leave your answers in terms of π.

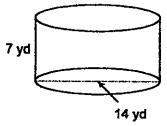
5) 

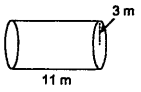
$r = 6$

$V = \pi(6)^2(4)$

$V = 144\pi\ yd^3$

6) 

7) 

8) 

$V = \pi(7)^2 7$

$V = 196\pi\ yd^3$

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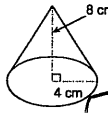
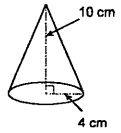
Find the volume of each figure. Round your answers to the nearest tenth, if necessary.

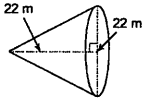
9) 

$V = \frac{1}{3}\pi(4)^2(8)$

$V = \frac{128}{3}\pi\ cm^3$

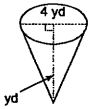
$r = 11$

10) 

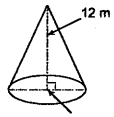
11) 

$V = \frac{2662}{3}\pi\ m^3$

$V = \frac{1}{3}\pi(11)^2(22)$

12) 

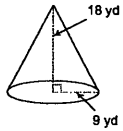
Find the volume of each figure. Leave your answers in terms of π. Use fractions instead of decimals, when necessary.

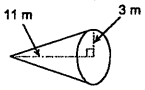
13) 

$V = \frac{1}{3}\pi(5)^2 12$

$r = 5$

$V = 100\pi\ m^3$

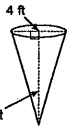
14) 

15) 

$V = \frac{1}{3}\pi(3)^2(11)$

$V = 3$

$V = 33\pi\ m^3$

16) 

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