

### 8-3: Find Volume of Cones

1. Sample answer: The volume of a cone is  $\frac{1}{3}$  the volume of a cylinder, given that the bases have the same radius and the heights are the same.
2. Sample answer: You need to know the radius of the cone and its height.
3. Sample answer: Use the Pythagorean Theorem to find the height of the cone.
4. About  $4.224 \text{ mm}^3$
5. About  $3,391.2 \text{ mm}^3$
6.  $0.441\pi \text{ ft}^3$
7. 3; 4  
9; 4  
36  
12
8. 16; 36  
256; 36  
28,938.24  
9,646.08
9. About 154 cubic feet
10. About 7 yards
11. No; Sample answer: The city has only about 5,280 cubic meters of sand.
12. a. About 7,598.8 cubic feet  
b. 15 tanks
13.  $60.75\pi$  cubic centimeters
14. About 16,896 cubic millimeters
15. a. The cone with a height of 5 feet.  
b.  $240\pi$  cubic feet
16. About 111.44 cubic feet
17. a. 16  
b. The cone would have  $\frac{1}{16}$  of its original volume.
18. B
19. 803.8