Name _____ Date _____

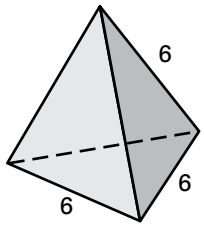
LESSON 11.7

Practice A

For use with the lesson "Volume of Pyramids and Cones"

Find the area of the base of the regular pyramid or cone.

1.



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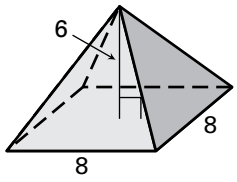

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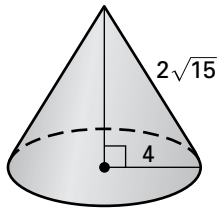
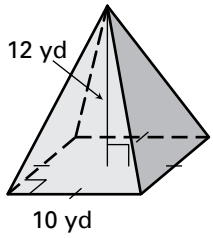


Find the volume of the pyramid. Round your answer to two decimal places.

4.



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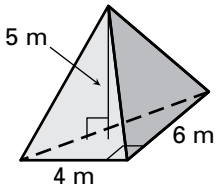

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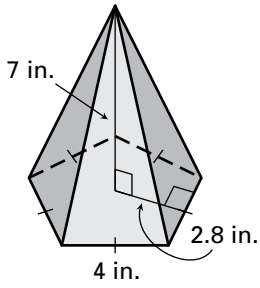

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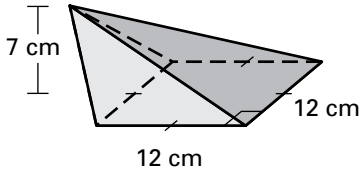

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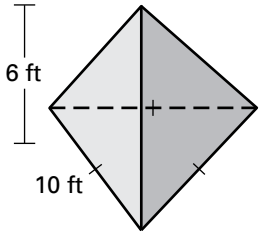

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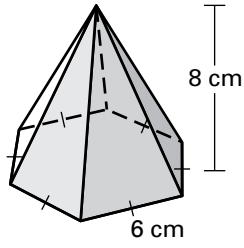
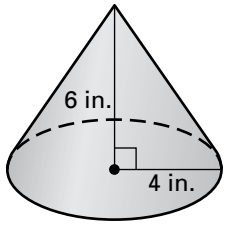


Find the volume of the cone. Round your answer to two decimal places.

10.



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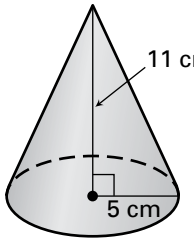

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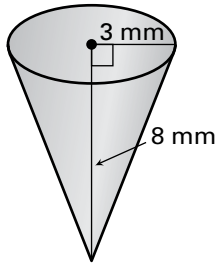

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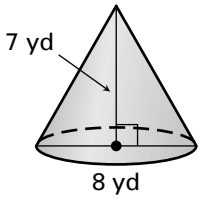

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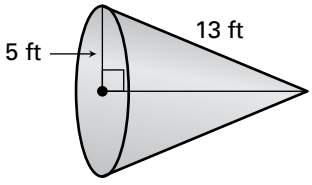

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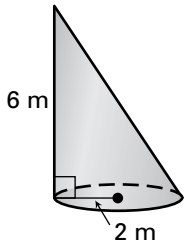


Name _____ Date _____

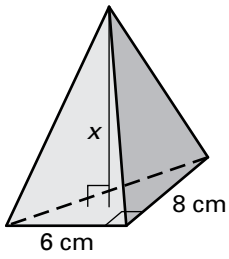
LESSON 11.7

Practice A *continued*

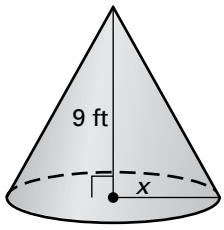
For use with the lesson "Volume of Pyramids and Cones"

Find the value of *x*.

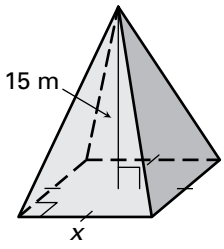
16. Volume = 80 cm^3



17. Volume = 75π ft^3



18. Volume = 605 m^3

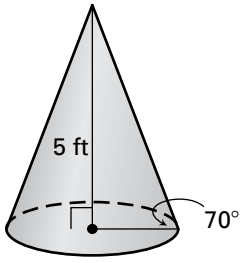


19. The volume of a pyramid is 24 cubic feet and the area of the base is 9 square feet. Find the height of the pyramid.

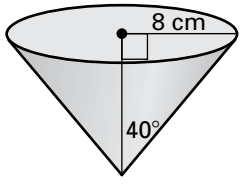
20. A right cone has a height of 15 meters and a slant height of 17 meters. Find the volume of the cone. Round your answer to two decimal places.

Find the volume of the right cone. Round your answer to two decimal places.

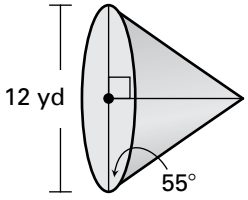
21.



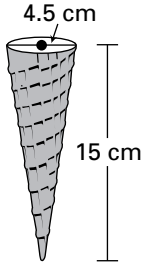
22.



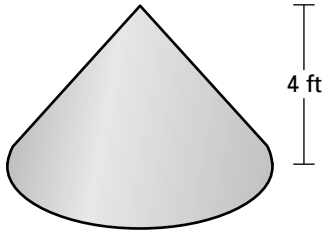
23.



24. Ice Cream Cone Find the volume of the ice cream cone shown.

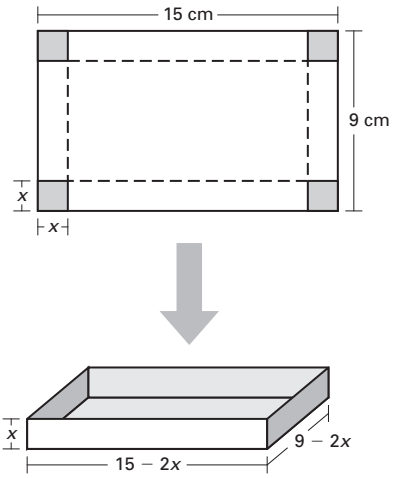


25. Sand A truck has hauled 48 cubic feet of sand to a building site. The sand is dumped into a conical shape 4 feet high. What is the diameter?



Lesson 11.6 Volume of Prisms and Cylinders, continued

6. a.



b. $V = x(9 - 2x)(15 - 2x) = 4x^3 - 48x + 135$

c.

x	0.8	1.2	1.8	2.0	2.2	2.6
V	79.3	99.8	110.8	110	107.3	96.8

Length: 11.4 cm; width: 5.4 cm; height: 1.8 cm

Lesson 11.7 Volume of Pyramids and Cones

Teaching Guide

1. 9 **2.** about 848.2 ft^3 **3.** about 31.4 yd^3

4. The contractor only needs 25 cubic yards and has 31.4 cubic yards available. **5.** No; There is about 22 cubic yards of gravel, so there is not enough.

Practice Level A

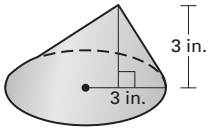
1. $9\sqrt{3} \approx 15.6$ square units **2.** 64 square units
3. $16\pi \approx 50.3$ square units **4.** 400 yd^3 **5.** 20 m^3
6. 65.33 $in.^3$ **7.** 336 cm^3 **8.** 86.6 ft^3
9. 249.42 cm^3 **10.** 100.53 $in.^3$ **11.** 287.98 cm^3
12. 75.40 mm^3 **13.** 117.29 yd^3 **14.** 314.16 ft^3
15. 25.13 m^3 **16.** $x = 10$ cm **17.** $x = 5$ ft
18. $x = 11$ m **19.** 8 ft **20.** 1005.31 m^3
21. 17.34 ft^3 **22.** 638.98 cm^3 **23.** 323.04 yd^3
24. 79.52 cm^3 **25.** about 6.77 ft

Practice Level B

1. 100.53 cm^3 **2.** 20 $in.^3$ **3.** 10.67 cm^3
4. 414.69 m^3 **5.** 126 $in.^3$ **6.** 163.49 cm^3
7. 6 in. **8.** 7 cm **9.** 7 m **10.** C
11. 2035.75 cm^3 **12.** 3681.88 m^3 **13.** 2652.53 ft^3
14. 448 m^3 **15.** 90.93 $in.^3$ **16.** 144 cm^3
17. 190.87 mm^3 **18.** 103.67 $in.^3$
19. 122.67 cm^3 **20.** 12 ft **21.** 1520.53 ft^3
22. 56.32 yd^3 **23.** no

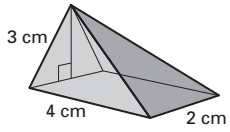
Practice Level C

1.



28.27 $in.^3$

2.



8 cm^3

3. 169.76 m^3 **4.** 6.58 ft^3 **5.** 124.05 cm^3
6. 14.76 yd^3 **7.** 4,579,109.32 m^3 **8.** 50.20 $in.^3$
9. 2211.8 cm^3 **10.** 29,605.40 mm^3
11. 353.97 m^3 **12.** 10 yd **13.** 502.81 m^3
14. 181.83 $in.^3$ **15.** 178.63 cm^3 **16.** 963.4 cm^3
17. 24 $in.^3$ **18.** No, each cone would require about 5.06 grams of gold. For all twelve, the jeweler would need about 60.7 grams.
19. 1840 $in.^3$ **20.** $533\frac{1}{3}\ m^3$

Study Guide

1. $V = 156$ yd^3 **2.** $h = 17$ m **3.** $V = 207.9$ $in.^3$

Problem Solving Workshop: Worked Out Example

1. 11.5 in. **2.** 1.61 in. **3.** 42.41 $in.^2$

Challenge Practice

1. $\frac{7\sqrt{3}}{2} \approx 6.1$ in. **2.** Cone; $100\pi \approx 314.2$ cm^3

3. Frustum of a cone; $\frac{5056\pi}{3} \approx 5294.6$ ft^3

4. $V = \frac{1}{3}b^2H - \frac{1}{3}a^2(H - h)$

5. $\frac{H}{b} = \frac{H - h}{a}$; $H = \frac{bh}{b - a}$; $H - h = \frac{ah}{b - a}$

6. $V = \frac{1}{3}h(a^2 + ab + b^2)$ **7.** 912 m^3