Name _____ Date _____

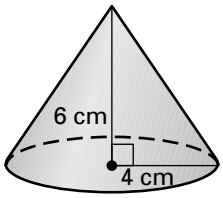
LESSON 11.7

Practice B

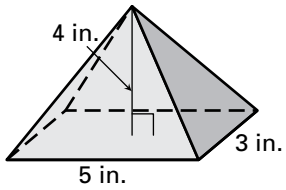
For use with the lesson "Volume of Pyramids and Cones"

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

1.



2.



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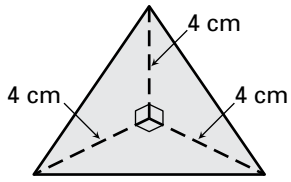

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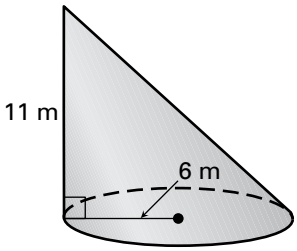

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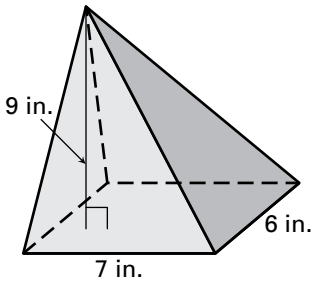
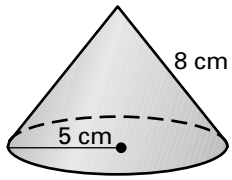
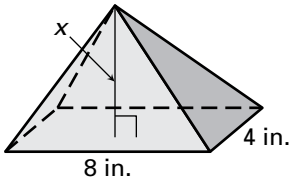


6.

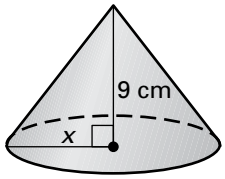


Find the value of *x*.

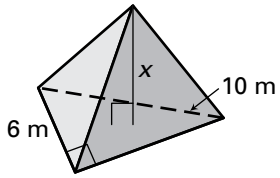
7. $V = 64$ in.^{3}



8. $V = 147\pi$ cm^3



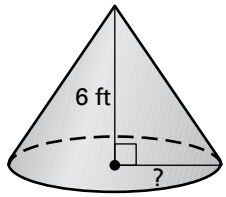
9. $V = 56$ m^3



10. Multiple Choice A right cone has a height of 6 feet and a volume of 32π cubic feet. What is its radius?

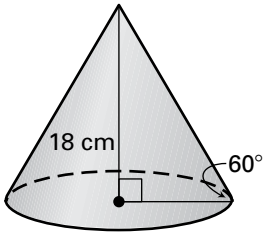
A. 2 ft **B.** 3 ft

C. 4 ft **D.** 5 ft



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

11.



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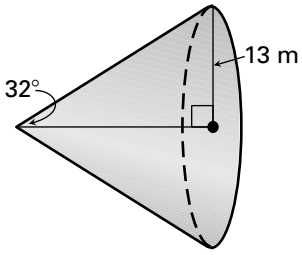

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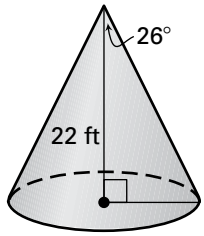


Name _____ Date _____

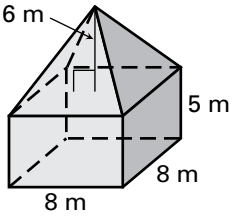
LESSON 11.7

Practice B *continued*

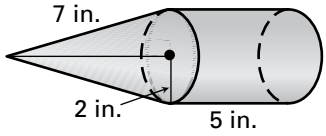
For use with the lesson "Volume of Pyramids and Cones"

Find the volume of the solid. The prisms, pyramids, and cones are right. Round your answer to two decimal places.

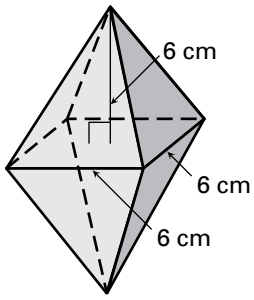
14.



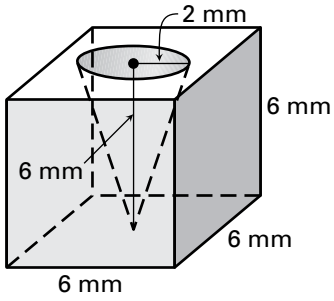
15.



16.



17.



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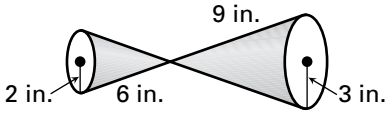
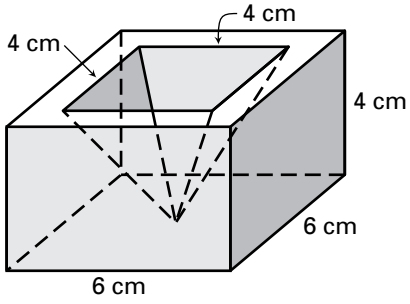


19.



20. Height of a Pyramid A right pyramid with a square base has a volume of 16 cubic feet. The height is six times the base edge length. What is the height of the pyramid?

In Exercises 21–23, use the following information.

Concrete To complete a construction job, a contractor needs 78 cubic yards of concrete. The contractor has a conical pile of concrete mix that measures 22 feet in diameter and 12 feet high.

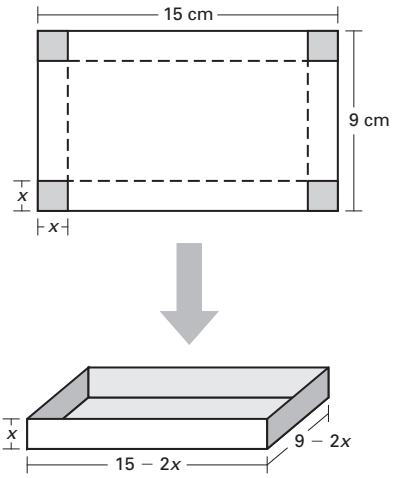
21. How many cubic feet of concrete are available to the contractor?

22. How many cubic yards of concrete are available to the contractor?

23. Does the contractor have enough concrete to finish the job?

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

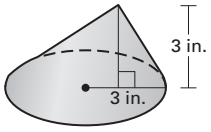
1. $9\sqrt{3} \approx 15.6$ square units **2.** 64 square units
3. $16\pi \approx 50.3$ square units **4.** 400 yd^3 **5.** 20 m^3
6. 65.33 $in.^3$ **7.** 336 cm^3 **8.** 86.6 ft^3
9. 249.42 cm^3 **10.** 100.53 $in.^3$ **11.** 287.98 cm^3
12. 75.40 mm^3 **13.** 117.29 yd^3 **14.** 314.16 ft^3
15. 25.13 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

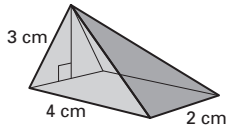
Practice Level C

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