Answers for Lesson 11-4, pp. 627–630 Exercises

1. 216 ft^3

2. 80 in.^3

3. 180 m^3

4. 14 cm^3

5. about 280.6 cm^3

6. 22.5 ft^3

7. 720 mm^3

8. 22.5 in.^3

9. $288\pi \text{ in.}^3$; 904.8 in.^3

10. $40\pi \text{ cm}^3$; 125.7 cm^3

11. $37.5\pi \text{ m}^3$; 117.8 m^3

12. 144 cm^3

13. 3445 in.^3

14. a. 28 ft^3

    b. 1747 lb

15. 501 in.^3

16. Answers may vary. Sample: 2 cm by 4 cm by 10 cm; 4 cm by 4 cm by 5 cm

17. $\frac{26}{9}$ cm

18. 5 in.

19. 6 ft

20. about 11.4 ft^3

21. 28–42 pots

22. 96 ft^3

23. a. $809{,}137 \text{ ft}^3$

    b. $1{,}398{,}188{,}736 \text{ in.}^3$

    c. $6{,}052{,}765 \text{ gal}$

24. Reword as "If two plane figures have the same height and the same width at every level, then they have the same area."

25. 80 units^3

26. 24 cm

27. 3 cm

28. A

29. Bulk; cost of bags $\approx \$1167$, cost of bulk is $\approx \$1161$.

30. cylinder with $r = 2$ and $h = 4$; $16\pi \text{ units}^3$

31. cylinder with $r = 4$ and $h = 2$; 32π units^3

32. cylinder with $r = 2$ and $h = 4$; 16π units^3

33. cylinder with $r = 5$, $h = 2$, and a hole of radius 1; 48π units^3

34. 125.7 cm^3 **35.** 140.6 in.^{3}

36. a. 730 in.^{2}

   b. 528 in.^{2}

   c. 756 in.^{3}

   d. 476 in.^{3}

37. a. circumference $8\frac{1}{2}$ in. and height 11 in.: $V \approx 63.2$ in.^{3}; circumference 11 in. and height $8\frac{1}{2}$ in.: $V \approx 81.8$ in.^{3}; one is about 0.8 times the volume of the other.

   b. about 6.5 in. by 13.0 in.

38. 2827 cm^3 **39.** 4 units

40. The volume of B is twice the volume of A.