Answers for Lesson 8-9, pp. 400–401 Exercises

1. Two solids are similar if they have the same shape and all their corresponding lengths are proportional.
2. $\frac{1}{3} = \frac{1}{x}$
3. 54 cm^2
4. 27 cm^3
5. 8.4 in.
6. 6.75 cm
7. 1,008 m^2; 2,074 m^3
8. 89 ft^2; 63 ft^3
9. 3,484 $in.^2$; 804 $in.^3$
10. 3,375 cm^2
11. 5 m
12. Answers may vary. Sample: about 20 times as great

    $\frac{2.5^3}{1^3} = \frac{V}{1}$, $V \approx 16$

    $\frac{3^3}{1^3} = \frac{V}{1}$, $V \approx 27$

    So the volume would be between 16 and 27 times as great.
13. 1,274 ft^2; 2,382 ft^3
14. 19.5 ft^2
15. If the ratio of their heights is the same as the ratio of their radii, they are similar.
16. $\frac{2}{1}$
17. 10.1 cm
18. B
19. H
20. C
21. 7.5×10^4
22. 1.94×10^{-3}
23. 8.3×10^{-5}