

Answers for Lesson 11-7, pp. 648–651 Exercises

1. no 2. yes; 3 : 2 3. yes; 2 : 3 4. no
5. yes; 2 : 3 6. no 7. 5 : 6 8. 6 : 7
9. 3 : 4 10. 2 : 5 11. 240 in.³ 12. 180 m³
13. 24 ft³ 14. 175 in.² 15. 112 m² 16. 325 yd²
17. 6000 toothpicks 18. 74 oz
19. a. It is 64 times the smaller prism.
b. It is 64 times the smaller prism.
20. a. 2:5
b. 4:25
c. 8:125
21. No; explanations may vary. Sample: If “size” refers to the vol., then the new clock should be at $\frac{1}{10}$ the weight.
22. Yes; $60; \frac{80}{60} = \frac{40}{30} = \frac{60}{45} = \frac{4}{3}$.
23. about 1000 cm³
24. No; an increase in the lengths of sides does not create prop. ratios unless the box is a cube.
25. Answers may vary. Sample: A sphere has only one measure, r , so there’s only one possible ratio.
26. 27 ft³
27. a. 3 : 1
b. 9 : 1
28. a. 11 : 14
b. 121 : 196
29. 864 in.³ 30. 1 : 4; 1 : 8

Answers for Lesson 11-7, pp. 648–651 Exercises (cont.)

31. $9 : 25; 27 : 125$

32. $7 : 9; 343 : 729$

33. $5 : 8; 25 : 64$

34. a. 144 coats

b. 1728 meals

35. a. 100 times

b. 1000 times

c. His weight is 1000 times the weight of an average person, but his bones can only support 600 times the weight.

36. a. 384 cm^3

b. $16:1$

c. pyramid *A*: 384 cm^2 ; pyramid *B*: 24 cm^2

37. a. $4 : 1; 8 : 1$

b. Let $r =$ radius, $\ell =$ slant height of small cone.
 $3\ell + 5r : 4\ell + 4r; 3\ell + 5r : \ell + r$

c. $7 : 8; 7 : 1$