

Answers for Lesson 8-4, pp. 371–372 Exercises

1. The lateral area of a prism is the sum of the areas of the lateral faces. The surface area includes the lateral area plus the area of the two bases.
2. 768 in.^2 3. 384 in.^2 4. 512 in.^2 5. $2,304 \text{ in.}^2$
6. $3,660 \text{ in.}^2$ 7. 96 cm^2 8. 440 ft^2 9. 600 cm^2
10. 96 in.^2 11. 296 ft^2 12. 251 in.^2 13. 275 cm^2
14. $20,790 \text{ ft}^2$
15. The 9 cm-by-5.5 cm-by-11.75 cm box will require more cardboard because it has a greater surface area.
16. Check students' work.
17. a. Treat the lighthouse as a cylinder. Multiply $3 \times 30 \times 150$ to estimate the lateral area. L.A. $\approx 13,500 \text{ ft}^2$
b. about 20 gallons of black paint and 20 gallons of white paint
18. L.A. = 452 ft^2 ; 19. L.A. = 675 m^2 ; 20. L.A. = 168 ft^2 ;
S.A. = 679 ft^2 S.A. = $1,045 \text{ m}^2$ S.A. = 216 ft^2
21. None; the area of the three new surfaces of figure A is exactly the same as the area of three surfaces of cube B.
22. D 23. G 24. C
25. 118° 26. 12°