

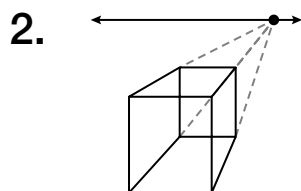
Warm Up 62

1. surface area
2. $S = 136 \text{ in}^2$
3. $V = 96 \text{ in}^3$

Lesson Practice 62

- a. $L = 528\pi \text{ in}^2$
- b. $S \approx 18,692 \text{ cm}^2$
- c. $V \approx 4326 \text{ ft}^3$
- d. $V \approx 2,650,719 \text{ ft}^3$

Practice 62

1. BD 

3. 62

4. $24,619.9 \text{ yd}^3$

5. 6.3 inches

6. sphere

7. A: $\frac{1}{6}$ or 0.17; B: $\frac{1}{3}$ or 0.33; C: $\frac{1}{2}$ or 0.5

8. rectangle

9. She found the orthocenter, not the centroid.

10. D

11. $6(1 + \sqrt{3})$ 12. a. $\angle B \cong \angle C$; Isosceles Triangle Theoremb. $m\angle B = 36^\circ$,
 $m\angle C = 36^\circ$,
 $m\angle A = 108^\circ$

13. No, because though the diagonals of the quadrilateral her friends make are perpendicular, Lucy does not know that they are equidistant from one another.

14. $62,800 \text{ in}^3$

15. 8 in.

16. approximately
 $41,146.56 \text{ in}^2$ 17. $x = 8.9, y = 21.9$ 18. No, it would also need to be known that either $m\angle A = m\angle C$ or $m\angle B = m\angle D$.

19. Yes, the consecutive angles are supplementary and opposite sides are parallel.

20. The corollary comes from the Triangle Proportionality Theorem, because the two lines cut by the parallel lines could always be connected to make a triangle. The sides of the triangle would be formed by one of the parallel lines and the two nonparallel lines. The case in which a triangle could not be formed would be if both sets of lines were made up of parallel lines.
21. 440 in^2
22. 14.9
23. When parallel lines are crossed by a transversal, alternate exterior angles are congruent; $x = \frac{11}{8}$
24. purple: 0.125; yellow: $\frac{7}{24}$ or 0.292; orange: $\frac{7}{12}$ or 0.583
25. $m\angle S = 120^\circ$,
 $m\angle T = 75^\circ$,
 $m\angle Q = 60^\circ$,
 $m\angle R = 105^\circ$
26. 12 jars
27. $(-4, -2)$
28. 3510.52 ft^2
29. Never, because a trapezoid only has one pair of parallel sides.
30. In an equilateral triangle, the Isosceles Triangle Theorem applies to any two of the triangle's sides, so any two of its angles are congruent. By the Transitive Property of Congruence, all of its angles are congruent, which is the definition of an equilateral triangle.