Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Chapter 8 (Geometry) Final Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Name the word that matches the definition given.

1. A closed figure in a plane that is made up of three or more line segments that intersect only at their endpoints
   a. polygon
   b. composite figure
   c. circle
   d. sphere
   e. prism
   f. pyramid

2. A polyhedron that has two parallel, identical bases; The lateral faces are parallelograms.
   a. prism
   b. pyramid
   c. surface area
   d. net
   e. volume
   f. polyhedron

3. A polyhedron that has one base; The lateral faces are triangles.
   a. prism
   b. pyramid
   c. surface area
   d. net
   e. volume
   f. polyhedron

4. A flat surface of a polyhedron
   a. solid
   b. polyhedron
   c. face
   d. edge
   e. vertex
   f. prism

5. A line segment where two faces intersect
   a. solid
   b. polyhedron
   c. face
   d. edge
   e. vertex
   f. prism

6. The sum of the areas of all the faces of a solid
   a. prism
   b. pyramid
   c. surface area
   d. net
   e. volume
   f. polyhedron

7. A measure of the amount of space that a three-dimensional figure occupies; ____ is measured in cubic units such as cubic feet (ft^3) or cubic meters (m^3).
   a. prism
   b. pyramid
   c. surface area
   d. net
   e. volume
   f. polyhedron

8. The distance from the center of a circle to any point on the circle
   a. circle
   b. center
   c. radius
   d. diameter
   e. circumference
   f. pi

9. The distance across a circle through the center
   a. circle
   b. center
   c. radius
   d. diameter
   e. circumference
   f. pi

10. The distance around a circle
    a. circle
    b. center
    c. radius
    d. diameter
    e. circumference
    f. pi

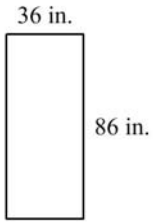
11. The ratio of the circumference of a circle to its diameter
    a. circle
    b. center
    c. radius
    d. diameter
    e. circumference
    f. pi

12. The sum of the areas of the lateral faces of a prism
    a. lateral surface area
    b. regular pyramid
    c. slant height
    d. cross section
    e. circumference
    f. slope

13. Which description represents the area of a parallelogram?
    a. the product of the length and the height
    b. the sum of all of the side lengths
    c. the square of the side length
    d. four times the length

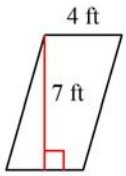
Find the area.

14.



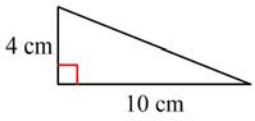
    a. 3,058 in.^{2}
    b. 1,548 in.^{2}
    c. 244 in.^{2}
    d. 3,096 in.^{2}

15.



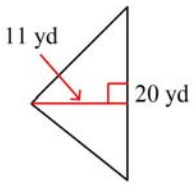
    a. 22 ft^2
    b. 14 ft^2
    c. 28 ft^2
    d. 29 ft^2

16.



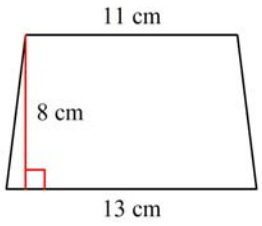
    a. 14 cm^2
    b. 28 cm^2
    c. 20 cm^2
    d. 40 cm^2

17.



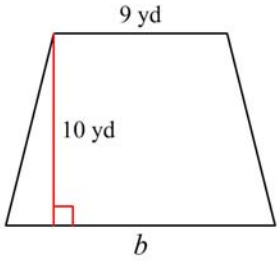
    a. 220 yd^2
    b. 110 yd^2
    c. 62 yd^2
    d. 31 yd^2

18.



a. 12 cm^2
b. 104 cm^2
c. 96 cm^2
d. 32 cm^2

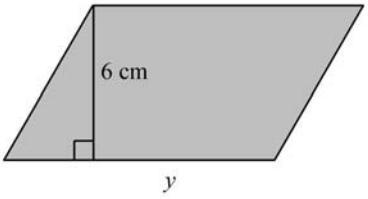
19. Area = 115 yd^2



a. 14 yd
b. 23 yd
c. 104 yd
d. 21 yd

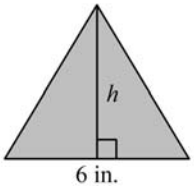
Write and solve an equation to find the missing dimension of the figure. Check your solution.

20. Area = 60 cm^2



a. 12 cm
b. 10 cm
c. 24 cm
d. 20 cm

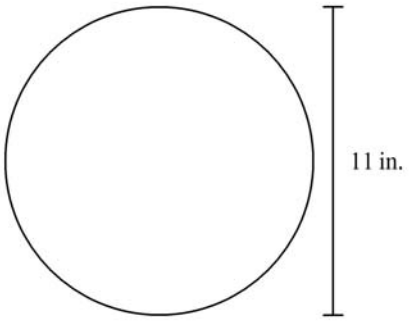
21. Area = 15 $in.^2$



a. 5 in.
b. 2.5 in.
c. 3 in.
d. 7.5 in.

Find the area of the circle. Use 3.14 or $\frac{22}{7}$ for π.

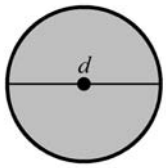
22.



a. about 34.54 in.^{2}
b. about 96.095 in.^{2}
c. about 94.985 in.^{2}
d. about 379.94 in.^{2}

Find the radius of the circle.

23. Circumference = 18.84 yd



a. 3 yd
b. 59.16 yd
c. 6 yd
d. 118.32 yd

24. Selena was finding the area of a circle with a radius of 7 units. Her work is shown in the box below.

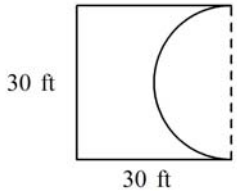
$$\begin{aligned} A &= \pi r^2 \\ &= 3.14 \times 7^2 \\ &= 3.14 \times 14 \\ &= 43.96 \text{ units}^2 \end{aligned}$$

What should Selena do to correct the error that she has made?

a. Use 14 for the value of r
b. Use 3.5 for the value of r
c. Use 49 instead of 14 for 7^2
d. Use the formula $2\pi r$

Find the area of the figure.

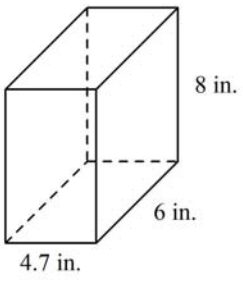
25.



a. 546.75 ft^2
b. 547.86 ft^2
c. 1,253.25 ft^2
d. 900 ft^2

Find the volume of the prism.

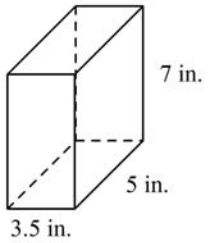
26.



a. 85.6 in.^{3}
b. 225.6 in.^{3}
c. 224.8 in.^{3}
d. 227.6 in.^{3}

Find the surface area of the figure.

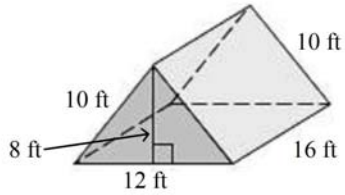
27.



a. 77 in.^{2}
b. 160.3 in.^{2}
c. 122.5 in.^{2}
d. 154 in.^{2}

Find the surface area of the triangular prism.

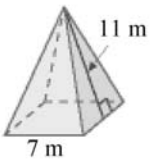
28.



a. 608 ft^2
b. 704 ft^2
c. 614 ft^2
d. 560 ft^2

Find the surface area of the square pyramid.

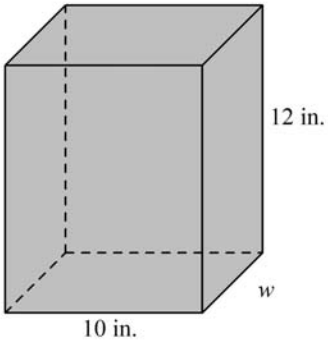
29.



a. 154 m^2
b. 357 m^2
c. 203 m^2
d. 308 m^2

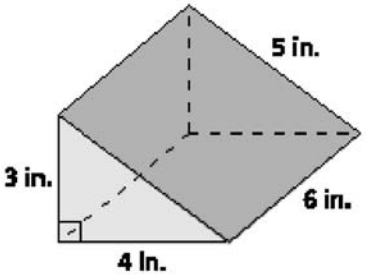
Write and solve an equation to find the missing dimension of the prism. Check your solution.

30. Volume = 960 in.^{3}



a. 80 in.
b. 6 in.
c. 8 in.
d. 15 in.

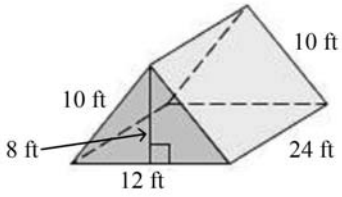
31. A right triangular prism and its dimensions are shown below.What is the total surface area, in square inches, of the right triangular prism?



a. 84
b. 96
c. 180
d. 360

Find the surface area of the prism.

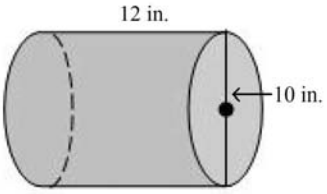
32.



a. 816 ft^2
b. 864 ft^2
c. 960 ft^2
d. 858 ft^2

Find the surface area of the figure.

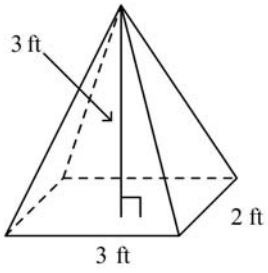
33.



a. 1004.8 $in.^2$
b. 533.8 $in.^2$
c. 910.6 $in.^2$
d. 816.4 $in.^2$

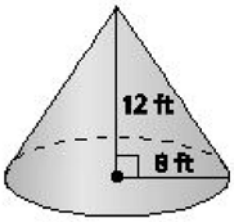
Find the volume.

34.



a. 8 ft^3
b. 6 ft^3
c. 9 ft^3
d. 3 ft^3

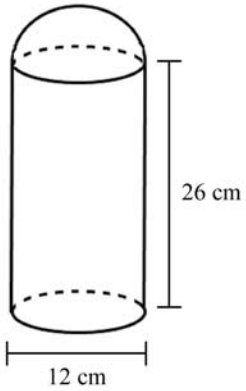
35. A right circular cone and its dimensions are shown below. What is the approximate volume of the cone?



a. 100.53 cubic feet
b. 502.40 cubic feet
c. 804.24 cubic feet
d. 2412.74 cubic feet

Find the volume of the composite solid. Round your answer to the nearest tenth.

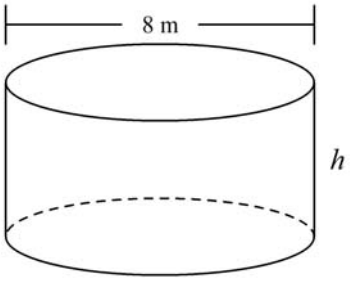
36.



a. 1432.6 cm^3
b. 3195 cm^3
c. 3845.3 cm^3
d. 3392.9 cm^3

Find the height of the cylinder. Round your answer to the nearest whole number.

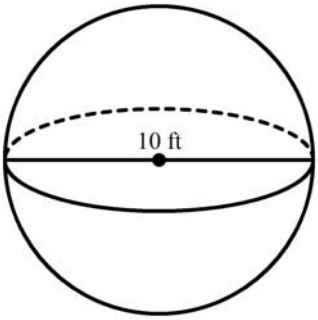
37. Volume = 301 m^3



a. 3 m
b. 4 m
c. 6 m
d. 2 m

Find the volume of the sphere. Round your answer to the nearest tenth.

38.

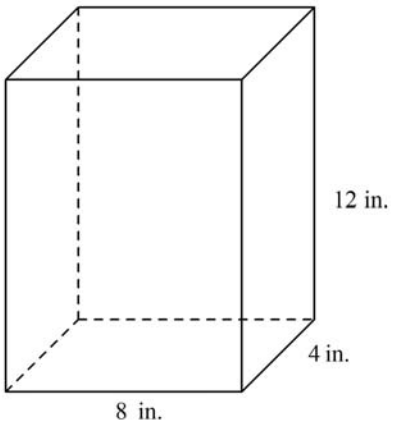


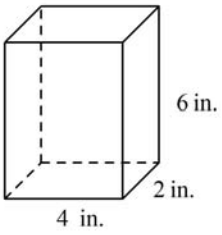
a. 635.1 ft^3
b. 523.6 ft^3
c. 314.2 ft^3
d. 294.5 ft^3

Short Answer

Determine whether the solids are similar.

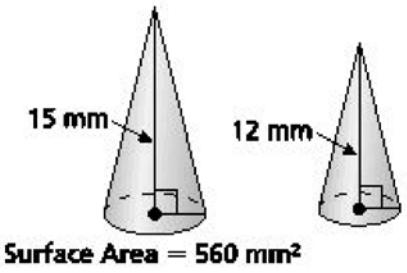
1.





The solids are similar. Find the surface area *S* or the volume *V* of the smaller solid.

2.



Chapter 8 (Geometry) Final Review
Answer Section

MULTIPLE CHOICE

1. A
2. A
3. B
4. C
5. D
6. C
7. E
8. C
9. D
10. E
11. F
12. A
13. A
14. D
15. C
16. C
17. B
18. C
19. A
20. B
21. A
22. C
23. C
24. C
25. A
26. B
27. D
28. A
29. C
30. C
31. A
32. B
33. B
34. B
35. C
36. D
37. C
38. B

SHORT ANSWER

1. yes
2. $S = 358.4 \text{ mm}^2$