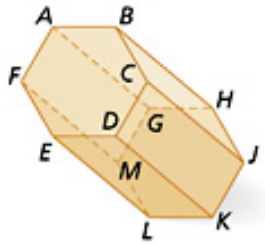
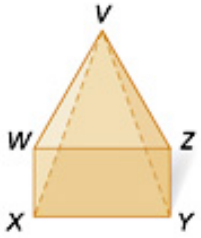
Lesson 10-1

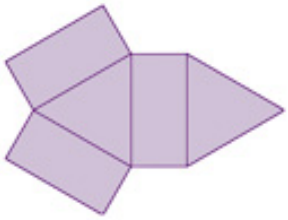
Classify each figure. Name the vertices, edges, and bases.

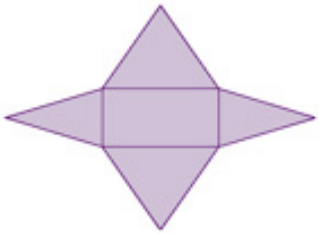
1. 

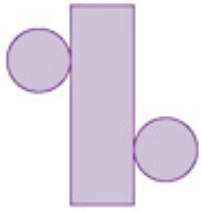
2. 

3. 

Describe the three-dimensional figure that can be made from the given net.

4. 

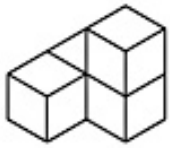
5. 

6. 

Lesson 10-2

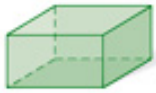
Use the figure made of unit cubes for Exercises 7–11. Assume there are no hidden cubes.

7. Draw all six orthographic views.
8. Draw an isometric view.
9. Draw a one-point perspective view.
10. Draw a two-point perspective view.
11. Determine whether the drawing represents the given object.



Lesson 10-3

Find the number of vertices, edges, and faces of each polyhedron. Use your results to verify Euler's formula.

12. 

13. 

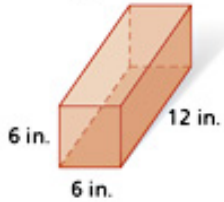
14. 

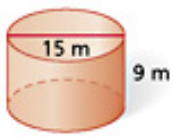
Find the distance between the given points. Find the midpoint of the segment with the given endpoints. Round to the nearest tenth, if necessary.

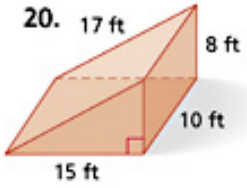
15. $(2, 4, 9)$ and $(3, 7, 2)$
16. $(0, 0, 0)$ and $(4, 7, -4)$
17. $(5, 1, 0)$ and $(0, 3, 4)$

Lesson 10-4

Find the lateral area and surface area of each figure. Give exact answers, using π if necessary.

18. 

19. 

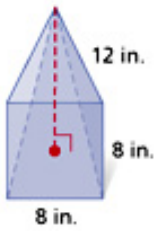
20. 

21. The dimensions of a cylinder with $r = 9$ cm and $h = 12$ cm are multiplied by $\frac{1}{3}$. Describe the effect on the surface area.

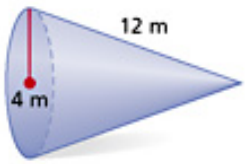
Lesson 10-5

Find the lateral area and surface area of each figure. Give exact answers, using π if necessary.

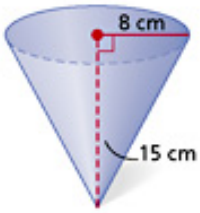
22.



23.



24.



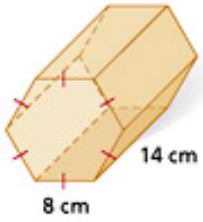
25. The dimensions of a square pyramid with $B = 64$ in^2 and $h = 7$ in. are tripled. Describe the effect on the surface area.

26. The dimensions of a right cone with $r = 14$ in. and $\ell = 24$ in. are multiplied by $\frac{1}{2}$. Describe the effect on the surface area.

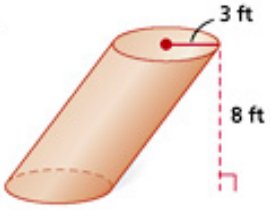
Lesson 10-6

Find the volume of each figure. Round to the nearest tenth.

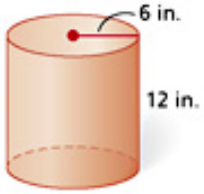
27.



28.



29.



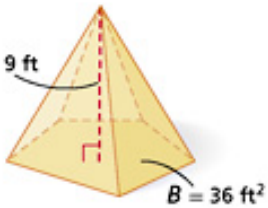
30. The dimensions of a prism with $B = 14$ cm^2 and $h = 8$ cm are doubled. Describe the effect on the volume.

31. The dimensions of a cylinder with $r = 6$ cm and $h = 4$ cm are multiplied by $\frac{2}{3}$. Describe the effect on the volume.

Lesson 10-7

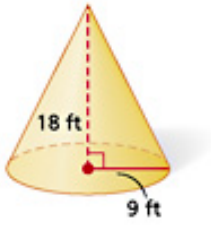
Find the volume of each figure. Round to the nearest tenth.

32.



33.

34.



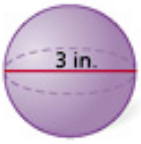
35. The dimensions of a cone with $r = 8$ cm and $\ell = 17$ cm are multiplied by $\frac{1}{2}$. Describe the effect on the volume.

36. The dimensions of a pyramid with $B = 128$ mm^2 and $h = 56$ mm are tripled. Describe the effect on the volume.

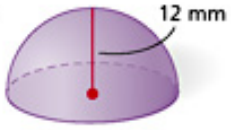
Lesson 10-8

Find the surface area and volume of each figure. Give your answers in terms of π.

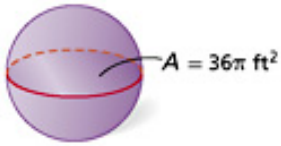
37.



38.



39.



40. The radius of a sphere with $r = 24$ cm is multiplied by $\frac{1}{3}$. Describe the effect on the surface area and volume.

41. The radius of a sphere with $r = 15$ mm is multiplied by 4. Describe the effect on the surface area and volume.