
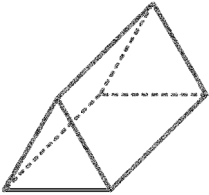
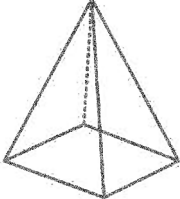
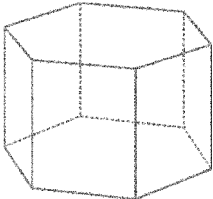
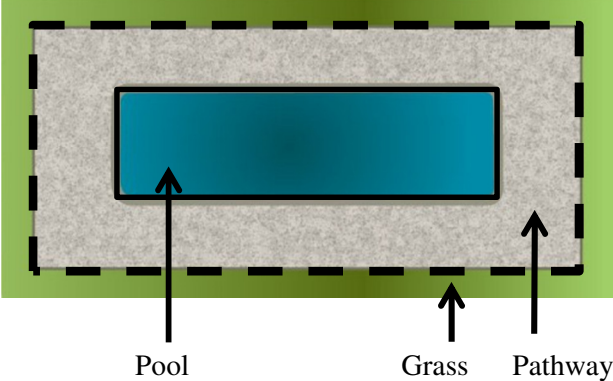
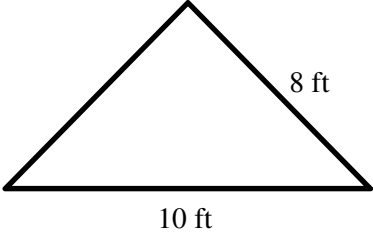



**Show all work on a separate sheet of paper.**

Be sure to show all steps when utilizing a formula to compute a length or area.

1.	<p>A stop sign is a regular polygon with each side being 12.6 inches. What is the perimeter of a stop sign?</p> <div style="text-align: center;">  </div>													
2.	<p>Using the formula <math>A = \frac{1}{2}bh</math>, find the area of a triangle with:</p> <ul style="list-style-type: none"> <li>• a height of 5 m</li> <li>• a base four times the height</li> </ul>													
3.	<p>A rectangle has a length of 10 ft. The width of the rectangle is 4 less than twice the length. What is the perimeter of the rectangle?</p>													
4.- 6.	<p>Name each solid and give the number of faces, edges, and vertices.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Name</td> <td style="width: 33%;">Name</td> <td style="width: 33%;">Name</td> </tr> <tr> <td>Faces</td> <td>Faces</td> <td>Faces</td> </tr> <tr> <td>Edges</td> <td>Edges</td> <td>Edges</td> </tr> <tr> <td>Vertices</td> <td>Vertices</td> <td>Vertices</td> </tr> </table>	Name	Name	Name	Faces	Faces	Faces	Edges	Edges	Edges	Vertices	Vertices	Vertices	
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7.	<p>Mr. Wright wishes to place a fence between his yard and his pool. The fence is shown with the dashed line below and is just at the edge of the pathway around the pool. The length of the fence will be 42 feet and the width of the fence will be 26 feet.</p>  <p>The diagram shows a rectangular pool (blue) surrounded by a grassy area (grey). A dashed black line represents a fence that runs along the outer edge of a green pathway. Three arrows point to the pool, grass, and pathway labels below the diagram.</p> <p>Pool                      Grass      Pathway</p> <p>What will be the price of the fence if it costs \$20 per foot?</p>	
8.	<p>In the problem above, the pool is 10 feet shorter than the length of the fence and 10 feet shorter than the width of the fence. What is the area taken up by Mr. Wright's pool?</p>	
9.	<p>Find the perimeter of the isosceles triangle below.</p>  <p>The diagram shows an isosceles triangle with a horizontal base labeled "10 ft" and two equal slanted sides, one of which is labeled "8 ft".</p>	
10.	<p>Mrs. Moore had a box to pack her secret surprise gift for her favorite math teacher. The box looks like the figure below. What is the volume of the box if all sides are congruent and all edges are 9 inches?</p>  <p>The diagram shows a 3D perspective view of a cardboard box with its top flaps open, representing a cube.</p>	

11.	Mr. Gresham has a wonderful backyard at his house. It is rectangular and has a total area of 245 ft <sup>2</sup> . What is the length of the backyard if the width is 7 ft?													
12.	<p>The table below shows the height and area of several triangles. All of these triangles have a base length of 6 feet.</p> <p style="text-align: center;"><b>Triangles</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Height, <math>h</math> (feet)</th> <th>Area, <math>A</math> (square feet)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>15</td> </tr> <tr> <td>10</td> <td>30</td> </tr> <tr> <td>15</td> <td>45</td> </tr> <tr> <td>20</td> <td>60</td> </tr> </tbody> </table> <p>Which of the following equations best represents the relationship between the height, <math>h</math>, and area, <math>A</math>, of these triangles?</p> <p>A. <math>A = h + 5</math>                      C. <math>A = \frac{h}{3}</math>  B. <math>A = h + 10</math>                     D. <math>A = 3h</math></p>	Height, $h$ (feet)	Area, $A$ (square feet)	5	15	10	30	15	45	20	60			
Height, $h$ (feet)	Area, $A$ (square feet)													
5	15													
10	30													
15	45													
20	60													
13.	<p>The table below shows the length and area of several rectangles. Each rectangle has a width of 12 feet.</p> <p style="text-align: center;"><b>Rectangles</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Length, <math>h</math> (feet)</th> <th>Area, <math>A</math> (square feet)</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>48</td> </tr> <tr> <td>6</td> <td>72</td> </tr> <tr> <td>8</td> <td>96</td> </tr> <tr> <td>10</td> <td>120</td> </tr> <tr> <td><math>n</math></td> <td></td> </tr> </tbody> </table> <p>Which expression can be used to find the area of a rectangle with the same width and a length of <math>n</math> feet?</p> <p>A. <math>n^2</math>                      B. <math>12n</math>                      C. <math>n + 24</math>                      D. <math>\frac{n}{12}</math></p>	Length, $h$ (feet)	Area, $A$ (square feet)	4	48	6	72	8	96	10	120	$n$		
Length, $h$ (feet)	Area, $A$ (square feet)													
4	48													
6	72													
8	96													
10	120													
$n$														

14. Which expression can be used to find the area of a triangle that has a base of 5 units and a height of  $n$  units?

**Rectangles**

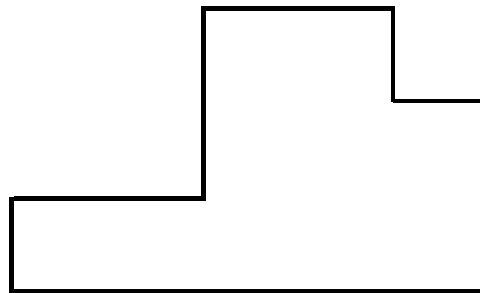
Height (units)	Base (units)	Area (square units)
4	5	10
8	5	20
12	5	30
16	5	40
$n$	5	?

- A.  $\frac{n}{2}$       B.  $\frac{5}{2}$       C.  $5n$       D.  $\frac{5n}{2}$

15. Mrs. Atkins found the length of one edge of a square to be 16 inches. Which of the following could be used to find  $P$ , the perimeter of the square?

- A.  $\frac{16}{4}$       B.  $4 \times 16$       C.  $16 + 4$       D.  $16 - 4$

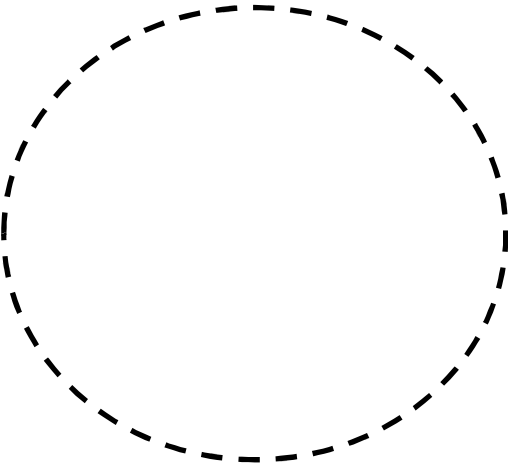
16. The figure below represents the floor of a building. Use the ruler provided to measure the dimensions of the figure to the nearest  $\frac{1}{2}$  inch.



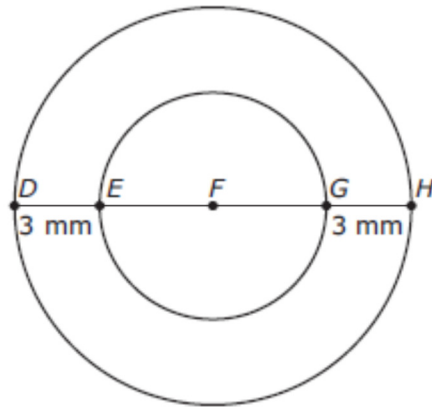
Scale 1 in. = 20 ft

Which is closest to the perimeter in feet of the floor of the actual building?

- A. 160 ft      B. 8 ft      C. 7 ft      D. 140 ft

17.	<p>The table below shows how the volume of a rectangular prism changes as its width increases and its length and height remain the same.</p> <p style="text-align: center;"><b>Rectangular Prisms</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Width, <math>w</math> (inches)</th> <th>Volume, <math>V</math> (cubic inches)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>400</td> </tr> <tr> <td>7</td> <td>560</td> </tr> <tr> <td>9</td> <td>720</td> </tr> <tr> <td>10</td> <td>800</td> </tr> </tbody> </table> <p>Which of the following equations best represents the relationship between the rectangular prism's width, <math>w</math>, and its volume, <math>V</math>?</p> <p>A. <math>V = 20w + 300</math>                      C. <math>V = w \div 80</math>  B. <math>V = 80w</math>                                D. <math>V = w + 395</math></p>	Width, $w$ (inches)	Volume, $V$ (cubic inches)	5	400	7	560	9	720	10	800	
Width, $w$ (inches)	Volume, $V$ (cubic inches)											
5	400											
7	560											
9	720											
10	800											
18.	<p>Draw and label each part as written.</p> <ul style="list-style-type: none"> <li>• Diameter</li> <li>• Circumference</li> <li>• Radius</li> <li>• Center</li> </ul> 											
19.- 22.	<p>Complete the following table. Use 3.14 for <math>\pi</math>.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Circumference</th> <th>Radius</th> <th>Diameter</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>14 in</td> </tr> <tr> <td></td> <td>3 ft</td> <td></td> </tr> </tbody> </table>	Circumference	Radius	Diameter			14 in		3 ft			
Circumference	Radius	Diameter										
		14 in										
	3 ft											
23.	<p>You know the circumference of a circle. Which operation would you need to complete to determine the diameter of the circle?</p> <p>A. Add <math>\pi</math>                                      C. Divide by <math>\pi</math>  B. Subtract <math>\pi</math>                                  D. Multiply by <math>\pi</math></p>											

The diagram below shows 2 circles with the same center at point  $F$ . Points  $E$ ,  $F$ , and  $G$  are on line segment  $DH$ . The diameter of the larger circle is 14 mm.

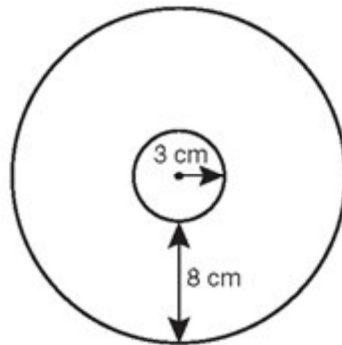


24.

What is the radius of the smaller circle?

- A. 4 mm      B. 7 mm      C. 11 mm      D. 8 mm

The drawing shows 2 circles that share a common center point.



25.

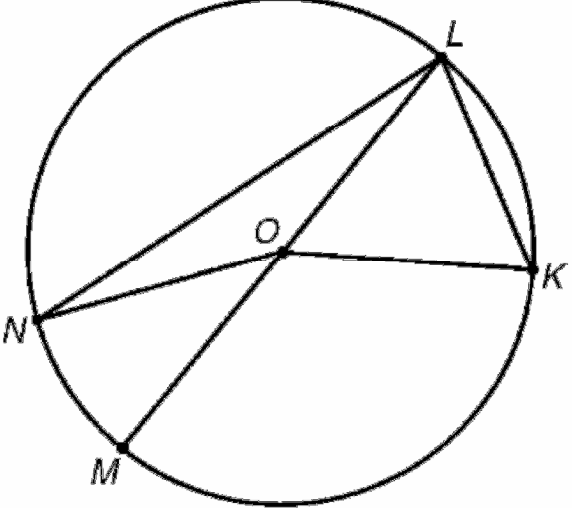
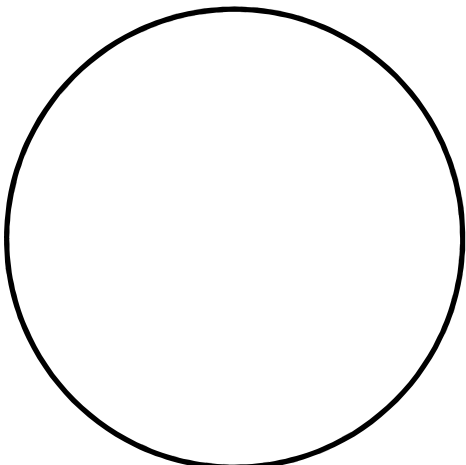
Which expression can be used to find the approximate circumference of the outer circle in centimeters?

- A.  $\pi(3+8)$       B.  $\frac{1}{2}(3+8)$       C.  $2\pi(3+8)$       D.  $2(3+8)$

Some theater arts students made a circular railroad-crossing sign for a school play. The diameter of the sign was about 3 feet. How does the diameter compare to the circumference of the sign?

26.

- A. The diameter is  $\frac{1}{3}$  of the circumference.  
 B. The diameter is  $\frac{1}{2}$  of the circumference.  
 C. The diameter is 2 times the circumference.  
 D. The diameter is 3 times the circumference.

27.	<p>Which line segment is two times the length of segment <math>\overline{OK}</math> ?</p>  <p>A. <math>\overline{LN}</math>      B. <math>\overline{LM}</math>      C. <math>\overline{LK}</math>      D. <math>\overline{ON}</math></p>	
28.	<p>The circle below has a diameter of 6 centimeters.</p>  <p>Which expression can be used to find the approximate circumference of this circle?</p> <p>A. <math>\pi(6)</math>      B. <math>2(6)</math>      C. <math>2\pi(6)</math>      D. <math>2\pi(12)</math></p>	
29.	<p>The circumference of a circle is 25.12 centimeters. Find the approximate length of the circle's radius.</p> <p>A. 4 cm      B. 5 cm      C. 8 cm      D. 10 cm</p>	

30.	<p>The circumference of a circular garden is 32 feet. Which of the following expressions best represents the radius of the garden?</p> <p>A. <math>\frac{32}{\pi}</math>                      C. <math>\frac{32}{2\pi}</math></p> <p>B. <math>32 \cdot \pi</math>                      D. <math>32 \cdot 2\pi</math></p>	
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