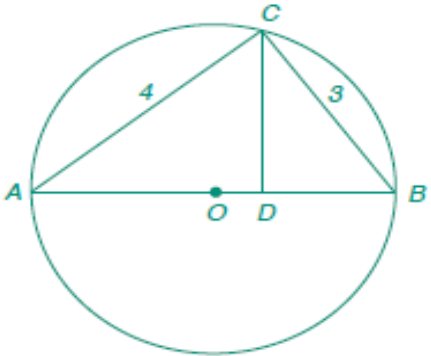
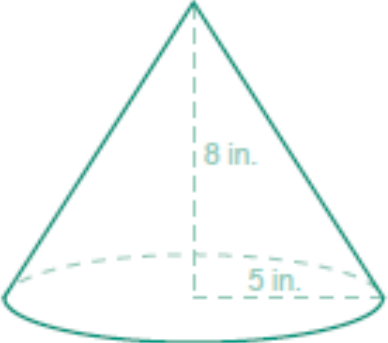


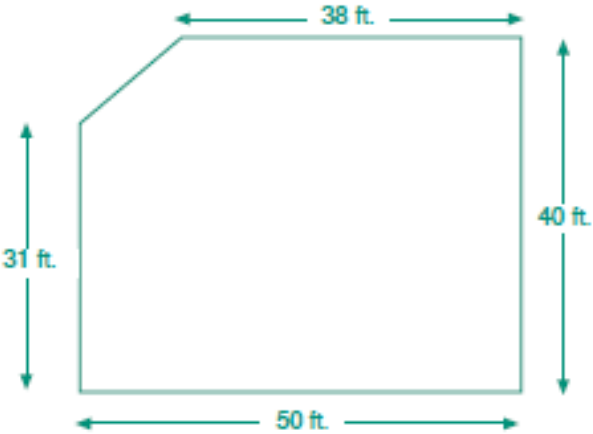
**Juneau School District  
Math Core Standards  
Geometry**

<b>G-CS1</b>	<b>Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning.</b>
<b>G-CS2</b>	<b>Students construct and judge the validity of a logical argument and give counterexamples to disprove a statement.</b>  Prove or disprove: If two triangles have two pairs of congruent sides, the triangles must be congruent.
<b>G-CS3</b>	<b>Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of triangles, quadrilaterals, and circles.</b>  Prove that the figure formed by joining, in order, the midpoints of the sides of a quadrilateral is a parallelogram.  Using what you know about parallel lines cut by a transversal, show that the sum of the angles in a triangle is the same as the angle in a straight line, 180 degrees.  $AB$ is a diameter of a circle centered at $O$ . $CD \perp AB$ . If the length of $AB$ is 5, find the length of side $CD$ .  

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<b>G-CS4</b>	<b>Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.</b>
	<p>A right circular cone has radius 5 inches and height 8 inches.</p>  <p>What is the lateral area of the cone? (Lateral area of cone = <math>\pi rl</math>, where <math>l</math> = slant height.)</p>
<b>G-CS5</b>	<b>Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.</b>
<b>G-CS6</b>	<b>Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms and trapezoids</b> <p>The diagram below shows the overall floor plan for a house. It has right angles at three corners. What is the area of the house? What is the perimeter of the house?</p>

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<b>G-CS6</b>	 <p>A diagram of a pentagon with dimensions: left vertical side 31 ft., bottom horizontal side 50 ft., top horizontal side 38 ft., and right vertical side 40 ft.</p>
<b>G-CS7</b>	<p><b>Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.</b></p> <p>A triangle has sides of lengths <math>a</math>, <math>b</math>, and <math>c</math> and an area <math>A</math>. What is the area of a triangle with sides of lengths <math>3a</math>, <math>3b</math>, and <math>3c</math>, respectively? Prove that your answer is correct.</p>
<b>G-CS8</b>	<p><b>Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.</b></p>
<b>G-CS9</b>	<p><b>Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles, stating solutions in simplest radical form.</b></p>

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<b>G-CS10</b>	<b>Students perform basic constructions with a straightedge and compass, such as bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.</b>
	Prove that the standard construction of the perpendicular from a point to a line not containing the point is correct.
<b>G-CS11</b>	<b>Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.</b>
	Use coordinates to prove that if $ABC$ is a triangle and $D, E$ are points on sides $AB$ and $AC$ , respectively, so that $\frac{ AD }{ AB } = \frac{ AE }{ AC },$ then line $DE$ is parallel to $BC$ .
<b>G-CS12</b>	<b>Students use trigonometric functions to solve for an unknown length of a side of a right triangle, given an angle and length of a side.</b>
<b>G-CS13</b>	<b>Students know and are able to use angle and side relationships in problems with special right triangles, such as 30 degree, 60 degree, and 90 degree triangles and 45 degree, 45 degree, and 90 degree triangles.</b>

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**G-CS14**

**Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.**

Use rigid motions to prove the side-angle-side criterion of triangle congruence.