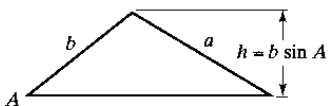
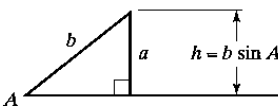
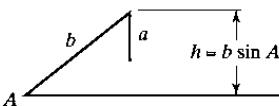
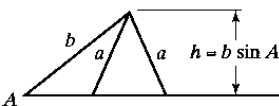


If A , B , and C are the measures of the angles of a triangle, and a , b , and c are the lengths of the sides opposite these angles, then

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

The ratio of the length of the side of any triangle to the sine of the angle opposite that side is the same for all three sides of the triangle.

Consider a triangle in which a , b , and A are given. This information may result in

One Triangle	One Right Triangle	No Triangle	Two Triangles
			
<p>a is greater than h and a is greater than b. One triangle is formed.</p>	<p>$a = h$ and is just the right length to form a right triangle.</p>	<p>a is less than h and is not long enough to form a triangle.</p>	<p>a is greater than h and a is less than b. Two distinct triangles are formed.</p>

If A , B , and C are the measures of the angles of a triangle, and a , b , and c are the lengths of the sides opposite these angles, then

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cos C$$

The square of a side of a triangle equals the sum of the squares of the other two sides minus twice their product times the cosine of their included angle.