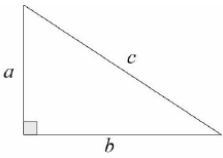
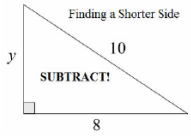
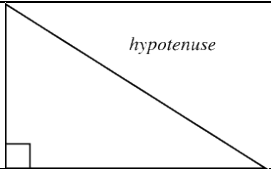
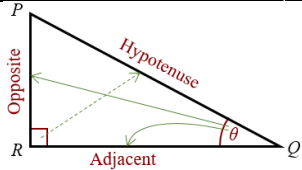
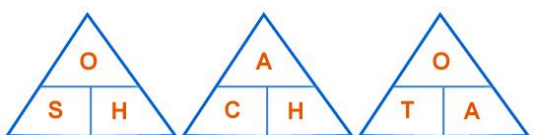
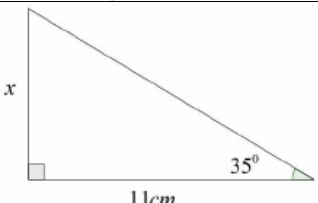
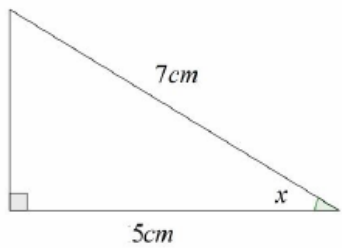


# Pythagoras' Theorem

Pythagoras' Theorem	<p>For any <b>right angled triangle</b>:</p> $a^2 + b^2 = c^2$  <p>Used to find <b>missing lengths</b>. a and b are the shorter sides, c is the <b>hypotenuse</b> (longest side).</p>	 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <math display="block">a = y, b = 8, c = 10</math> <math display="block">a^2 = c^2 - b^2</math> <math display="block">y^2 = 100 - 64</math> <math display="block">y^2 = 36</math> <math display="block">y = 6</math> </div>
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# Trigonometry in Right-Angles Triangles

Trigonometry	The <b>study</b> of <b>triangles</b> .	
Hypotenuse	<p>The <b>longest side</b> of a <b>right-angled triangle</b>.</p> <p>Is always <b>opposite</b> the <b>right angle</b>.</p>	
Adjacent	<b>Next to</b>	
Trigonometric Formulae	<p>Use <b>SOHCAHTOA</b>.</p> $\sin \theta = \frac{O}{H}$ $\cos \theta = \frac{A}{H}$ $\tan \theta = \frac{O}{A}$  <p>When finding a missing angle, use the 'inverse' trigonometric function by pressing the 'shift' button on the calculator.</p>	 <p>Use 'Opposite' and 'Adjacent', so use 'tan'</p> $\tan 35 = \frac{x}{11}$ $x = 11 \tan 35 = 7.70\text{cm}$  <p>Use 'Adjacent' and 'Hypotenuse', so use 'cos'</p> $\cos x = \frac{5}{7}$ $x = \cos^{-1}\left(\frac{5}{7}\right) = 44.4^\circ$