

Pythagorean Theorem Converse & Classifying Triangles

Given a triangle with sides a, b, and c:
<ul style="list-style-type: none"> • If $c^2 = a^2 + b^2$, then the triangle is <u>right</u>. • If $c^2 > a^2 + b^2$, then the triangle is <u>obtuse</u>. • If $c^2 < a^2 + b^2$, then the triangle is <u>acute</u>.
Always keep "c²" on the LEFT side to avoid confusion when classifying!

Directions: First, determine if the three side lengths could form a triangle. (Recall from earlier, the sum of the two smaller sides must be greater than the third side). If yes, classify the triangle further as acute, right, or obtuse.	
<p>1. 3, 7, 9</p> <p style="font-size: 1.2em; margin-left: 20px;">$3 + 7 > 9$</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>	<p>2. 20, 21, 29</p> <p style="font-size: 1.2em; margin-left: 20px;">$20 + 21 > 29$</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>
<p>3. 4, 11, 16</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>	<p>4. 17, 17, 22</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>
<p>5. 18, 24, 30</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>	<p>6. 8, 15, 23</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>
<p>7. 31, 35, 39</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>	<p>8. 11, 19, 28</p> <div style="text-align: right; margin-top: 20px;"> <input type="checkbox"/> Not a Δ <input type="checkbox"/> Acute <input type="checkbox"/> Right <input type="checkbox"/> Obtuse </div>