Triangle Angle Detectives

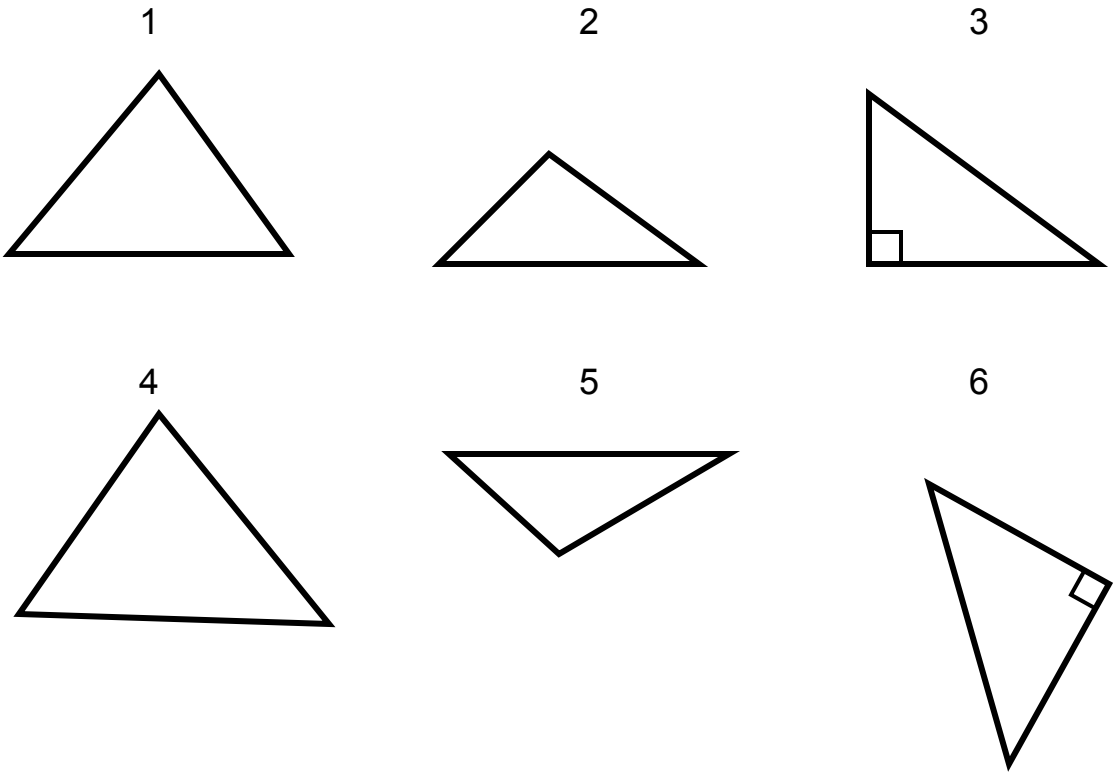
Name triangles as acute, obtuse, or right by looking at the largest angle.

Name: _____ Date: _____

Part 1: Inspect the triangles

Listen: Your teacher will read a quick reminder. Then study each original practice figure below. A triangle is **acute** when all its angles are smaller than a square corner. It is **right** when one angle is a square corner. It is **obtuse** when one angle is wider than a square corner. The small square marks a right angle.

Do not use the triangle's direction or side lengths to decide. Look for its largest angle.



Original instructional figures. The number identifies each triangle; it is not an angle measure.

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Part 2: Sort and explain

For each triangle, write **acute**, **obtuse**, or **right**. In the evidence column, tell what you noticed about the largest angle.

Triangle	Class	Evidence about the largest angle
1		
2		
3		
4		
5		
6		

Explain: Choose one acute triangle and one obtuse triangle. How does the largest angle in each one help you tell the difference?

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Answer key and teaching notes

Materials supplied: The original, geometrically accurate triangle set and right-angle markers appear in “Part 1: Inspect the triangles.” The classification table appears in “Part 2: Sort and explain.” **Additionally needed:** one pencil per student. Do not provide protractors for this task.

Exact setup: Print and supply all student pages, keeping teacher-key pages separate. Give students “Part 1: Inspect the triangles” before “Part 2: Sort and explain.” Students work independently after the brief oral reminder; allow about 12 minutes.

Teacher-read script: “Listen for the biggest opening in each triangle. A right angle makes a square corner. An obtuse angle opens wider than a square corner. If every angle is smaller than a square corner, the triangle is acute. Turning a triangle does not change its name. Write what you notice about the largest angle.”

Observation method: While students work, use a checklist for each student: (1) names a class for all six figures, (2) uses the largest angle rather than side length or orientation, and (3) recognizes a right-angle square as evidence at that vertex. Ask one student per group, “Which angle did you compare to a square corner?” Record the student's words, not just a correct label.

Answers and reasoning:
1. Acute - all three angles are smaller than a square corner.
2. Obtuse - the top angle is wider than a square corner.
3. Right - the marked square is at the lower-left vertex, showing a right angle there.
4. Acute - all three angles are smaller than a square corner, even though the triangle tilts.
5. Obtuse - the bottom angle is wider than a square corner.
6. Right - the marked square is at the upper-right vertex, showing a right angle there.
7. Sample explanation: “Triangle 1 is acute because its largest angle is still smaller than a square corner. Triangle 2 is obtuse because its largest angle is wider than a square corner.” Accept equivalent explanations that correctly compare the largest angles.

Quick feedback: If a student sorts by point direction or longest side, cover the other features with a finger and ask the student to compare only the widest opening to a square corner. For a right triangle, have the student trace the small square to the two sides meeting at that exact vertex.

Source credit: Task standard supplied: NY-4.G.2.a, “Identify and name triangles based on angle size (right, obtuse, acute).” https://lessonmakerpro.com/standards/ny-nextgen-math/ny-4-g-2-a