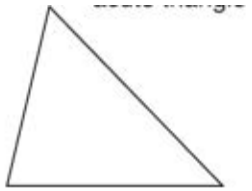
# Notes Today: Classifying Triangles and Solving for Sides with Trigonometry

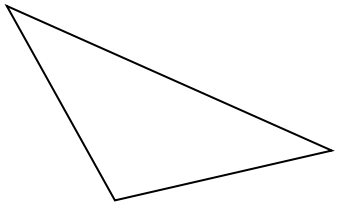
You need Notebook Paper for the
1st Part on Classifying Triangles

# Classifying Triangles By Their Angles:

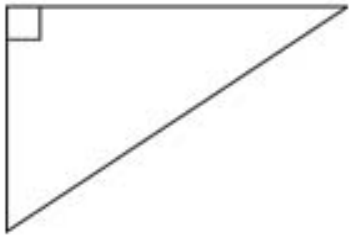
- Acute Triangle
  - An acute triangle is a triangle that has **All Acute Angles**



- Obtuse Triangle
  - An obtuse triangle is a triangle that has **One Obtuse Angle**



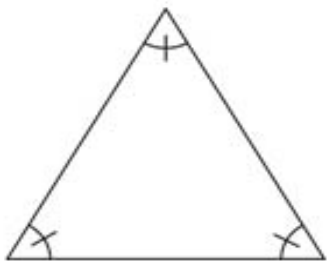
- Right Triangle
  - A right triangle is a triangle that has **One Right Angle**



# Classifying Triangles By Their Angles:

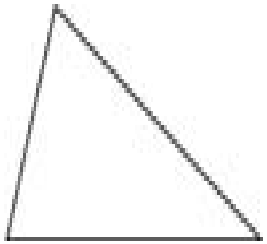
- Oblique Triangle
  - An oblique triangle is a **Non-Right Triangle**
  - These can be **Acute** triangles or **Obtuse** triangles

- Equiangular Triangle
  - An equiangular triangle is a triangle that has **All Congruent Angles**

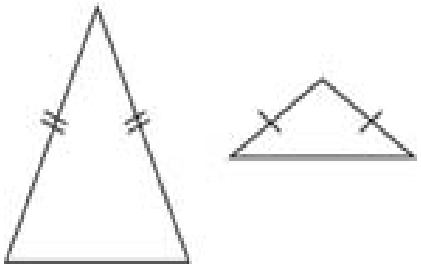


# Classifying Triangles By Their Sides:

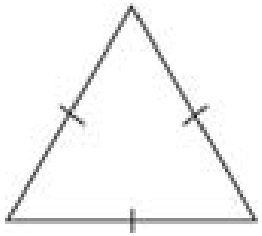
- Scalene Triangle
  - A scalene triangle is a triangle that **No Congruent Sides**



- Isosceles Triangle
  - An isosceles triangle is a triangle that has **At least two congruent sides**

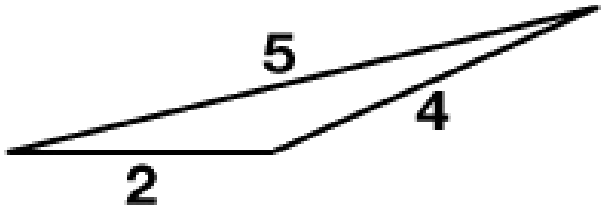


- Equilateral Triangle
  - An equilateral triangle is a triangle that has **All congruent sides**



# Examples

**Classify the triangle by its sides and its angles.**




**The three sides of the triangle have three different lengths, so the triangle is scalene.**

**One angle has a measure greater than 90, so the triangle is obtuse.**

**∴ The triangle is an obtuse scalene triangle.**

These 3 dots are notation for “therefore”. ☺

# Examples

A triangle with a 90° angle has sides that are 3 cm, 4 cm, and 5 cm long. Classify the triangle.

**The three sides of the triangle have three different lengths, so the triangle is scalene.**

**One angle has a measure of 90, so the triangle is right.**

∴ **The triangle is a right scalene triangle.**

These 3 dots are notation for “therefore”. ☺