## Grade 7 Mini-Module: Drawing Geometric Shapes

Aligns with CCSS.MATH.CONTENT.7.G.A.2: Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

## Objectives

In this module, you will learn and practice the following skills:

- Draw geometric shapes with given conditions.
- Determine whether conditions for a triangle determine a unique triangle, more than one triangle, or no triangle.

Let's get started!

## Key Terms

- A geometric constraint is a property that a shape must have.


## Drawing Geometric Shapes

## (CCSS.Math.Content.7.G.A.2)

You can draw geometric shapes to meet specific constraints, or criteria. These criteria could include:

- Side lengths
- Number of sides
- Angle measures
- Angle types
- Number of parallel lines
- Number of perpendicular lines or right angles

For example, you can draw a triangle given side lengths or angle measures.
Sometimes the side lengths or angle measures will describe a unique shape.
Draw a triangle with side lengths of $4 \mathrm{~cm}, 8 \mathrm{~cm}$, and 9 cm .


Sometimes more than one shape can satisfy the side lengths or angle measures.
Draw an isosceles triangle with an angle that measures $50^{\circ}$.


Sometimes the side lengths will describe an impossible figure.
Draw a triangle that has side lengths of 4 in ., and 5 in ., 10 in .


