Grade 7 Standards Parent Resource

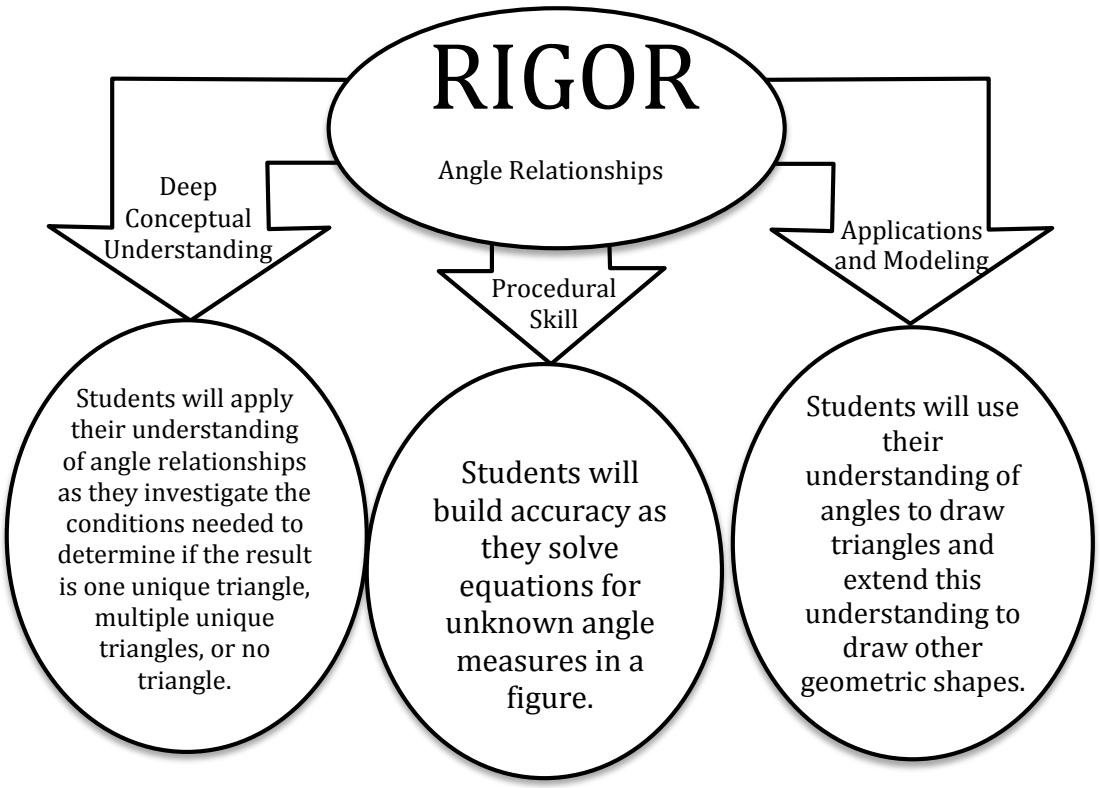
Unit 3: Expressing Geometric Relationships

Unit 3 includes 2 topics of study, listed below. This resource is for Topic 2.

Topic 1	***Topic 2***
Measurement in Two and Three Dimensions	***Angle Relationships***

Topic	**Learning Goals by Common Core State Standard** *Students will be able to...*
Angle Relationships	• 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. • Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. *Instructional videos in the hyperlinks above are meant to support C2.0 content, but may use vocabulary or strategies not emphasized by MCPS.*

The Common Core State Standards require a balance of three fundamental components that result in rigorous mathematics acquisition: deep conceptual understanding, procedural skill, and mathematical applications and modeling.



Grade 7 Standards Parent Resource

Unit 3: Expressing Geometric Relationships Topic 2: Angle Relationships

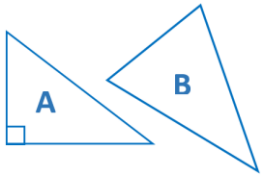
Learning Experiences by Common Core State Standard

Topic 2: Angle Relationships

In school, your child will…

- 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.

  Use your protractor to measure the angles of triangles A and B. Use your ruler to measure the side lengths of triangles A and B (in cm). Label the angle measures and side lengths.



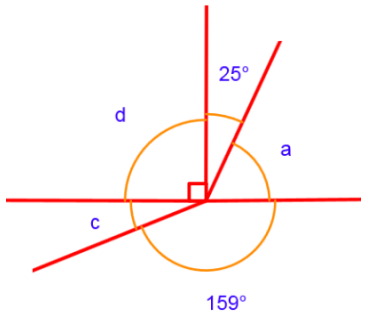
- Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

  Write and solve equations to determine the unknown angle measures below:

$c + 159 = 180$

$a + 25 = 90$

$m\angle d = 90°$, so $a + 90 + 25 = 180$



At home, your child can…

- Practice identifying and measuring sketched angles using a protractor. Practice rotating the interactive protractor into proper position to measure each given angle at http://www.mathplayground.com/measuringangles.html.
- Investigate a local street system design using a street map or by visiting Google© maps.
  - Locate and label the different angles on the map and use a protractor for measuring.
  - Locate pairs of intersecting roads and determine the angle relationship that exists. Use a protractor to confirm the relationship.
  - Determine if any series of intersecting roads results in a triangle and identify the type of triangle that is represented.
- Examine a soccer field and see how angle measures are at work. Visit the CK12 PLIX (Play Learn Interact Xplore): Corner Kick. *To access the PLIX, you will need to create a free user account.*

Additional Resources

- Angle Relationships: complementary and supplementary angles (online matching game)
- Interactive Angles Teaching Tool (online practice)
- Supplementary and Complementary Angles (online skills practice)
- IXL Math: Identify complementary, supplementary, vertical, adjacent, and congruent angles (online practice)
- Triangles Side and Angles (online tutorial)
- Khan Academy: Constructing Triangles (online practice)

Grade 7 Standards Unit 3 Topic 2: Angle Relationships (flexbook)

Additional Practice links support C2.0 content,
but may use vocabulary or strategies not emphasized by MCPS.