

MATH NEWS

Grade 4, Module 4, Topic A

4th Grade Math

Module 4: Angle Measure and Plane Figures

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 4 of Eureka Math (Engage New York) covers angle measures and plane figures.



Focus Area – Topic A *Lines and Angles*

Words to Know:

Point -precise location in the plane

Line - straight path with no thickness that extends in both directions without end

Line segment – part of a line connecting two endpoints

Ray - a part of a line which starts at a point and goes off in a particular direction to infinity.

▶ Always name a ray by starting with its endpoint

	Line LM or Line ML	\overleftrightarrow{LM} or \overleftrightarrow{ML}
	Line Segment DE or Line Segment ED	\overline{DE} or \overline{ED}
	Ray BC	\overrightarrow{BC}

OBJECTIVES OF TOPIC A

- ▶ Identify and draw points, lines, line segments, rays, and angles and recognize them in various contexts and familiar figures.
- ▶ Use right angles to determine whether angles are equal to, greater than, or less than right angles. Draw right, obtuse, and acute angles.
- ▶ Identify, define, and draw perpendicular and parallel lines.

Focus Area – Topic A

Lines and Angles

Words to Know:

Arc -connected portion of a circle

Angle - union of two different rays sharing a vertex

Vertex - a point, often used to refer to the point where two lines meet, such as in an angle or the corner of a triangle

Obtuse angle - angle with a measure greater than 90 degrees but less than 180 degrees

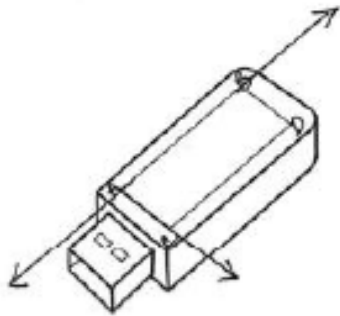
Acute angle - angle with a measure of less than 90 degrees

	Arc	connected portion of a circle
	Right Angle	90° Angle
	Acute Angle	Arc less than 90°
	Obtuse Angle	Arc greater than 90° but less than 180°

Module 4: Angle Measure and Plane Figures



In topic A students use their understanding of angles to explore relationships between pairs of lines, defining and recognizing intersecting, perpendicular, and parallel lines. Their knowledge of right angles leads them to identify and define as well as construct perpendicular lines. Students learn how lines that never intersect also have a special relationship and are called parallel. They explore these concepts by finding parallel and perpendicular lines in common shapes and objects.



Words to Know:

Parallel - two lines in a plane that do not intersect

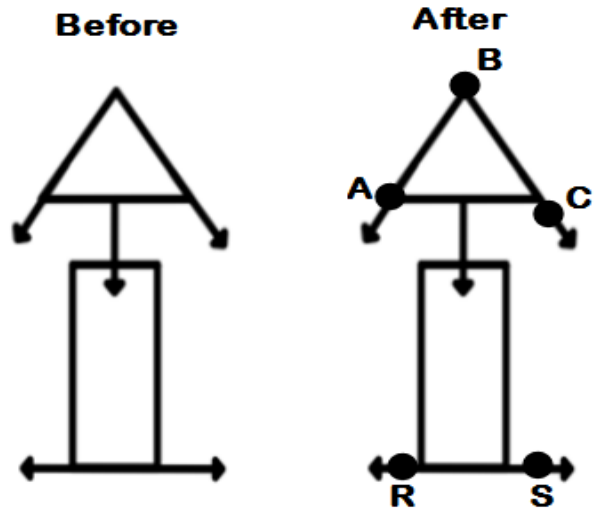
Perpendicular - Two lines are perpendicular if they intersect, and any of the angles formed between the lines is a 90° angle.

Intersecting lines - lines that contain at least one point in common

	<p>Angle QRS or Angle QRS</p>	<p>$\angle QRS$ or $\angle SRQ$</p>
	<p>Parallel</p>	<p>$\overline{AB} \parallel \overline{GH}$ Line segment A is parallel to line segment GH</p>
	<p>Perpendicular</p>	<p>$\overline{EF} \perp \overline{JK}$ Line segment EI is perpendicular to line segment</p>

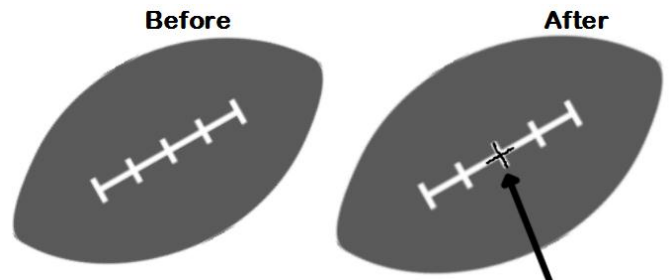
Example Problem and Answer

Label points on the figure and then use those points to label and name representations of each of the following in the table below: ray, line, line segment, and angle.



ray	\overrightarrow{BC}
line	\overleftrightarrow{RS}
line segment	\overline{BA}
angle	$\angle ABC$

Trace at least one pair of lines that are perpendicular.



Trace at least one pair of lines that appear to be parallel.

