Fourth Grade: Module 4

DUVAL Math Parent Tips

DUVAL COUNTY PUBLIC SCHOOLS

Angle Measure & Plane Figures

Fourth Grade

In Module 4, students will construct, recognize, and define geometric objects before using their new knowledge and understanding to classify figures and solve problems. Students will construct and measure angles, as well as create equations to find an unknown angle.

What Came Before this Module: . Students explore decimal numbers and their relationship to decimal fractions (1/10, 1/100, etc.), learning to express a given quantity in both fraction and decimal forms.

What Comes After this Module:

Students build their skills with measurement as they relate multiplication to the conversion of measurement units. They solve unit conversion problems using multiple strategies.

Special points of interest:

- ✓Words to Know
- ✓Lines and Angles
- ✓Angle Measurement
- ✓Two Dimensional Figures and Symmetry
- ✓Mathematical Practices
- ✓Zearn! Want to help your child with DUVAL Math?

Words To Know

Acute Angle – angle with a measure of less than 90 degrees

Line of symmetry - line through a figure such that when the figure is folded along the line two halves are created that match up exactly

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

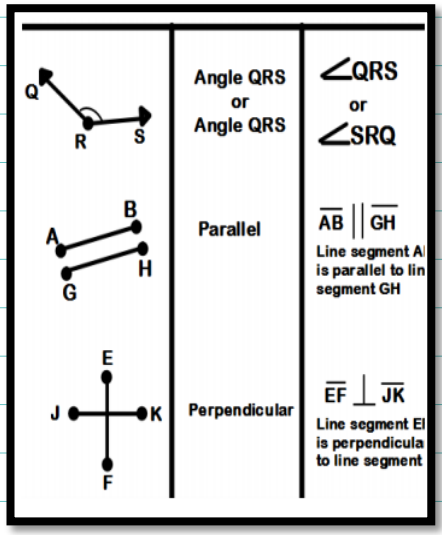
Parallel - two lines in a plane that do not intersect

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

Right angle - angle formed by perpendicular lines, measuring 90 degrees

Straight angle - angle that measures 180 degrees

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



Questions?

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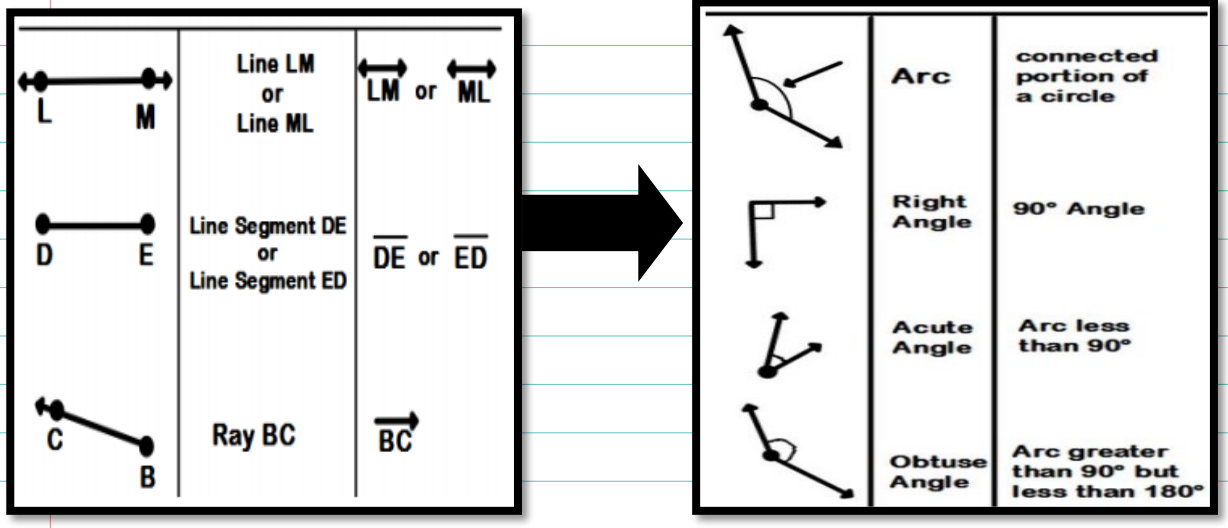
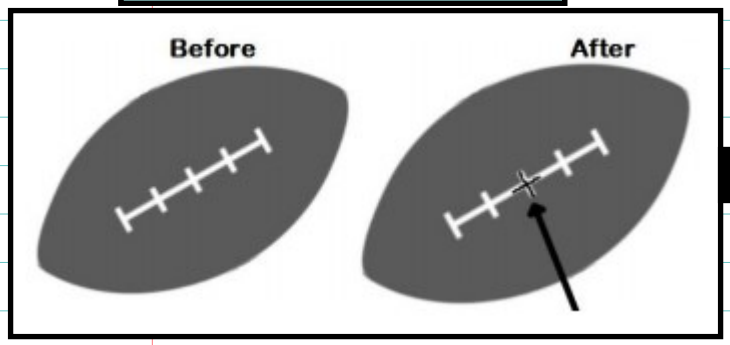
Lines and Angles

Students will be able to:

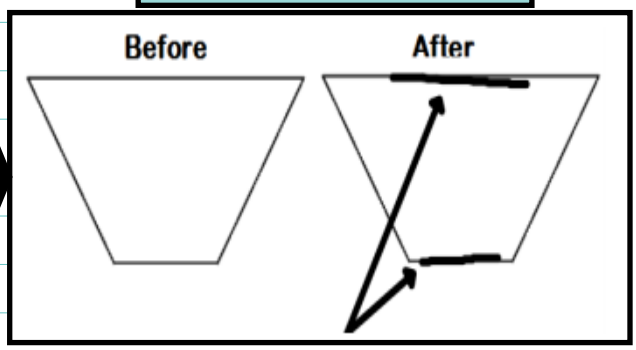
- Identify and draw points, lines, line segments, rays, and angles and recognize them in various contexts and familiar figures.
- Use right angles to determine whether angles are equal to, greater than, or less than right angles. Draw right, obtuse, and acute angles.
- Identify, define, and draw perpendicular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



Students will trace at least one pair of lines that are perpendicular.



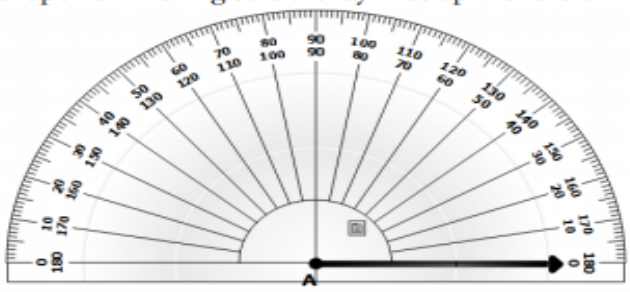
Students will trace at least one pair of lines that appear to be



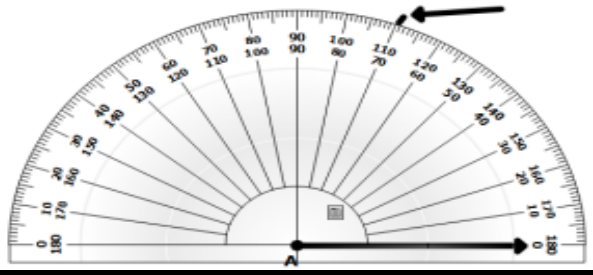
Angle Measurement

Step 1 - Draw a ray and label the endpoint A.

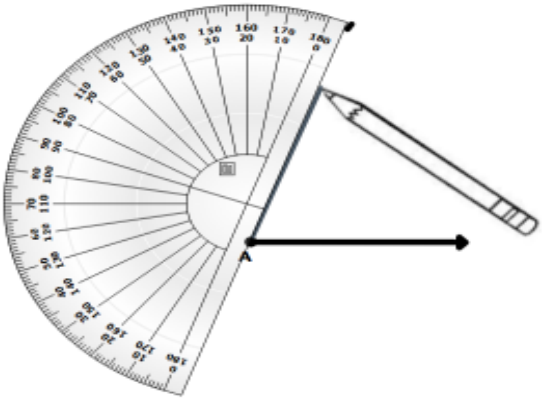
Step 2 - Line up the protractor, placing the center over endpoint A making sure the ray lines up with the 0° line.



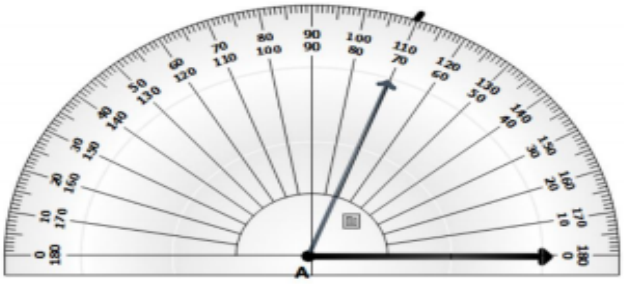
Step 3 - Find 70° on the protractor and draw a small point right above it.



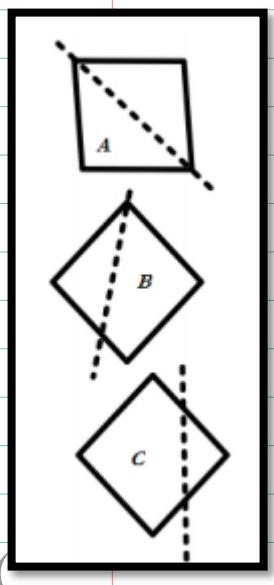
Step 4 - Use the straight edge of the protractor to draw the next ray beginning at point A and continuing to the mark you made above the 70°.



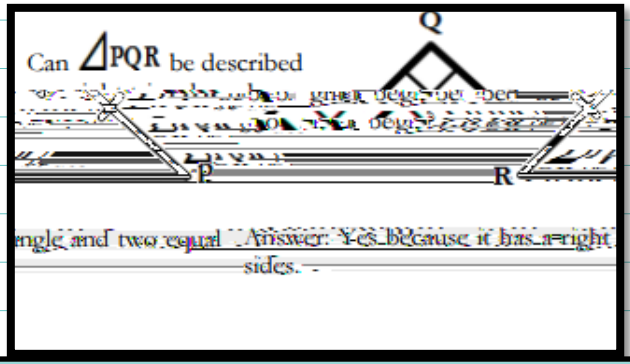
Step 5 - Use the protractor to verify the angle is 70°.



Two Dimensional Figures & Symmetry



Consider figures A, B, and C. Only one of them shows a line of symmetry. Students will need to see that figure A can be folded along the dotted line making the halves line up exactly. Therefore, figure A has the line of symmetry



Students are asked to decide if a given triangle can be described as right triangle and an isosceles triangle.

Standards for Mathematical Practice

Mathematical Practices Addressed in this Module:

MP.2 Reason abstractly and quantitatively. Students represent angle measures within equations, and when determining the measure of an unknown angle, they represent the unknown angle with a letter or symbol both in the diagram and in the equation. They reason about the properties of groups of figures during classification activities.

MP.3 Construct viable arguments and critique the reasoning of others. Knowing and using the relationships between adjacent and vertical angles, students construct an argument for identifying the angle measures of all four angles generated by two intersecting lines when given the measure of one angle. Students explore the concepts of parallelism and perpendicularity on different types of grids with activities that require justifying whether completing specific tasks is possible on different grids.

MP.5 Use appropriate tools strategically. Students choose to use protractors when measuring and sketching angles, drawing perpendicular lines, and precisely constructing two-dimensional figures with specific angle measurements. They use right angle templates (set squares) and straightedges to construct parallel lines. They also choose to use straightedges for sketching lines, line segments, and rays.

MP.6 Attend to precision. Students use clear and precise vocabulary. They learn, for example, to cross-classify triangles by both angle size and side length (e.g., naming a shape as a right, isosceles triangle). They use right angle templates (set squares) and straightedges to construct parallel lines and become sufficiently familiar with a protractor to decide which set of numbers to use when measuring an angle whose orientation is such that it opens from either direction, or when the angle measures more than 180°.

1. Go to www.zearn.org
2. Create a login.
3. Click on Courses.
4. There is a drop-down menu on the left. Click on the grade and the Mission. Mission is being used in place of Module. Example: Grade 3 Mission 4 is the same as Grade 3 Module 4.
5. Scroll to find a particular lesson.
6. Now you can click on one of the choices offered for that lesson. What is offered varies from lesson to lesson. These are some of the choices the lessons may offer.

- **Math Chat/Learning Lab/Z-Quad:** could have a warm-up followed by a video or just a lesson video
- **Tower:** Practice Problems
- **Bonus:** Extra Problems
- **Sprints:** Sprints presented in lesson are available for student to take online.
- **Multiply Mania:** Multiplication Facts

Zearn!

Additional Practice aligned with DUVAL Math!

http://www.zearn.org