Kentucky Alternate Assessment Instructional Support Document - Math

KAS: KY.8.G.1

Standards for Mathematical Practice	
MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics.	MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.

Standard	Clarifications
KY.8.G.1 Verify experimentally the properties of rotations, reflections and translations: ● Lines are congruent to lines. ● Line segments are congruent to line segments of the same length. ● Angles are congruent to angles of the same measure. ● Parallel lines are congruent to parallel lines. ***Alternate Assessment Target:*** *No limitations. All parts of the Kentucky Academic Standard are eligible to be included as an assessment item.*	Emphasis is congruence transformations preserve corresponding congruent lines, segments and angles. ***Alternate Assessment Clarification:*** *Students discover through experience that the transformation (moving the position through rotation, reflection, and translation) of a line, line segment, or an angle will not change the measurement. The position may change but the measurement remains the same (congruent).*
Connections to Math Practices	**Coherence/Foundational Understandings**
MP.5 Use appropriate tools strategically. (Use tools to make sense of math*) With the aid of physical models,transparencies and geometry software, students in grade eight gain an understanding of transformations and their relationship to congruence of shapes. **MP.6** Attend to precision. (Communicate precisely.*) **Key Vocabulary:** corresponding, congruence, line segment, angle, line, reflection, rotation, prime, parallel lines, parallel, image, pre-image, x-axis y-axis, rigid motion **Click here to see more about what teachers and students do to build the math practices: Engaging the Math Practices and Question Stems**	**Pre-requisite Skills** ● Use of a measuring instrument ● Coordinate graphing KY..5.G.1 graphing points on a coordinate plane KY.HS.G.2 C Coherence KY.8.G.1→ KY.HS.G.3(+) Kentucky Academic Standards for Mathematics

*Clarification to the math practices by Robert Kaplinsky.

Instructional Considerations

Possible Areas of Difficulties/Misconceptions

- Students with spatial visualization may. have difficulty therefore they need more practice.
- Locating corresponding sides and angles after a transformation has occurred is difficult without use of labeling and notations of points and segments.
- Color coding may help students identify the corresponding parts so they may discover the idea of congruence.
- Students also may transform themselves within a large floor coordinate grid made from masking tape.

Suggested Tools/Visual Aids -

- KY Alternate Assessment Resource Guide (General terms pps 6-11 ; Math terms pps 22-26)
- Mira, Mirror
- Patty paper/tracing paper
- Virtual manipulatives Polypad
- Large graph poster paper, or floor graphs
- Concrete 2-D objects
- Transparencies
- Wallpaper patterns
- Large Floor grid
- Geoboards