

Unit 7 Standards Review

Acceleration to Algebra (Grade 7 & 8 LSSM Standards)

Unit Description:

Students will build fluency and continue to apply essential standards toward applications of concepts such as of systems of equations and transformations.

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.

Louisiana Student Standards for Mathematics (LSSM)

EE – Expressions and Equations	
C. Analyze and solve linear equations and pairs of simultaneous linear equations.	
8.EE.C.8	<p>Analyze and solve pairs of simultaneous linear equations.</p> <p>a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</p> <p>b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i></p> <p>c. Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i></p>

G – Geometry

A. Understand congruence and similarity using physical models, transparencies, or geometry software.

8.G.A.1	Verify experimentally the properties of rotations, reflections, and translations: <i>(Rotations are only about the origin and reflections are only over the y-axis and x-axis in Grade 8)</i> a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.
8.G.A.2	Explain that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. <i>(Rotations are only about the origin and reflections are only over the y-axis and x-axis in Grade 8)</i>
8.G.A.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. <i>(Rotations are only about the origin and reflections are only over the y-axis and x-axis in Grade 8)</i>
8.G.A.4	Explain that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. <i>(Dilations only use the origin as the center of dilation, rotations are only about the origin and reflections are only over the y-axis and x-axis in Grade 8)</i>

Enduring Understandings:

- *Simultaneous equations are graphed on the same coordinate grid. They will intersect at one point, all points, or no points.
- *Congruent figures have the same size and shape.

Essential Questions:

- *What does the point of intersection of two simultaneous equations represent?
- *What are transformations and what effect do they have on a two-dimensional figure?
- *How can you use coordinates to describe the result of a translation, reflection, or rotation?
- *What does the scale factor of a dilation convey?
- *Can two figures be both congruent and similar?