**Curriculum Coverage in 8th Grade Mathematics for the 2018-2019 School Year as Outlined by TN Standards**

**TN Standards Major Work of the Grade:**

* **Radical and integer exponents**
* **Functions**
* **Expressions and Equations**
* **Pythagorean Theorem**

**Supporting:**

* **Rational Numbers**
* **Transformation**
* **Volume of cylinders, cones, and spheres**
* **Scatterplots**
* **Probability**

**The Standards for Mathematical Practice**

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| **MP1. Make sense of problems and persevere in solving them.** | **MP2. Reason abstractly and quantitatively.** | **MP3. Construct viable arguments and critique the reasoning of others.** | **MP4. Model with mathematics.** |
| **MP5. Use appropriate tools strategically.** | **MP6. Attend to precision.** | **MP7. Look for and make use of structure.** | **MP8. Look for and express regularity in repeated reasoning.** |

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| **TNStandards** | **Learning Outcomes** | **Instructional Focus** | **Content Resources** |
| **Systems of Equations**  **(Allow 4 weeks for instruction, review, and assessment)** | | | |
| * **8.EE.C.8** Analyze and solve pairs of simultaneous linear equations.   b. Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection  c. Solve real-world and mathematical  problems leading to two linear equations in two variables. | I can solve a system of linear equations in two variables algebraically by graphing both equations to see at what point they intersect.  I can solve a system of linear equations by substitution.  I can solve contextual situations with systems of linear equations. |  | **Go Math Lesson:**  \* Lesson 8.1 Solving Systems of Linear Equations by Graphing (pg. 227)  \* Lesson 8.2 Solving Systems by Substitution (pg. 235)  \* Lesson 8.3 Solving Systems of Equations by Elimination (pg. 243)  \* Lesson 8.4 Solving Systems by Elimination with Multiplication (pg. 251)  \* Lesson 8.5 Solving Special Systems (pg. 259)  **Engage NY Task:**  [Module 4, Topic D, Systems of Linear Equations and their Solutions](https://www.engageny.org/resource/grade-8-mathematics-module-4-topic-d-overview) |
| **Pythagorean Theorem**  **(Allow 3 weeks for instruction, review, and assessment)** | | | |
| * **8.G.B.4** Explain a proof of the Pythagorean Theorem and its converse. * **8.G.B.5** Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. * **8.G.B.6** Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. | I can know and understand the Pythagorean Theorem and how it applies to a right triangle.  I can determine if a triangle is a right triangle by using the converse of the Pythagorean Theorem.  I can determine the missing measure of the hypotenuse of a right triangle if given both of the measurements of the legs.  I can determine the missing measure of a leg of a right triangle if given the measurement of one leg and the measure of the hypotenuse.  I can use the Pythagorean Theorem to solve contextual problems involving rectangles or right triangles.  I can use the Pythagorean Theorem to determine the distance between two points on a coordinate plane. | **8.G.B.5**  **Instructional Focus:**  Students should demonstrate an understanding of the Pythagorean Theorem by describing mathematical and real-world situations in which it can be applied. As students are applying the Pythagorean Theorem to complex problems, they should provide valid justification of their reasoning using precise vocabulary. Additionally, students should be able to visualize three-dimensional objects with embedded right triangles without visual representations provided. | **Go Math Lesson:**  \* Lesson 12.1 The Pythagorean Theorem (pg. 375)  \* Lesson 12.2 Converse of the Pythagorean Theorem (pg. 381)  \* Lesson 12.3 Distance Between Two Points (pg. 387)  **Engage NY Task:**  [Module 2, Topic D, The Pythagorean Theorem](https://www.engageny.org/resource/grade-8-mathematics-module-2-topic-d-overview)  [Module 3, Topic C, The Pythagorean Theorem](https://www.engageny.org/resource/grade-8-mathematics-module-3-topic-c-overview)  [Module 4, Topic E, The Pythagorean Theorem](https://www.engageny.org/resource/grade-8-mathematics-module-4-topic-e-overview)  [Module 7, Topic C, The Pythagorean Theorem](https://www.engageny.org/resource/grade-8-mathematics-module-7-topic-c-overview) |
| **Angle Relationships**  **(Allow 2 weeks for instruction, review, and assessment)** | | | |
| * **8.G.A.3** Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.   *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line and give an argument in terms of transversals why this is so.* | I can solve for the missing angle measurement of any triangle if given the other two measurements.  I can Know and Understand that two parallel lines cut by a transversal forms 8 sets of angles.  I can determine the relationship of vertical angles, corresponding angles, alternate interior angles, alternate exterior angles, supplementary angles, congruent angles.  I can determine the remaining angle measures if given one measure on parallel lines cut by a transversal. |  | **Go Math Lesson:**  \* Lesson 11.1 Parallel Lines Cut by a Transversal (pg. 347)  \* Lesson 11.2 Angle Theorem for Triangles (pg. 353)  \* Lesson 11.3 Angle – Angle Similarity (pg. 361)  **Engage NY Task:**  [Module 2, Topic C, Congruence and Angle Relationships](https://www.engageny.org/resource/grade-8-mathematics-module-2-topic-c-overview) |
| **Resource Toolbox:**  **Additional Resources**  [Mathematics Assessment Project](http://map.mathshell.org/materials/index.php)  [Illustrative Mathematics](http://www.illustrativemathematics.org/standards/k8)  [Virtual Nerd](http://www.virtualnerd.com/)  [Khan Academy](https://www.khanacademy.org/)  [Internet 4 Classrooms](http://www.internet4classrooms.com/skills-8th-mathbuilders.htm)  [Teacher Tube](http://www.teachertube.com/)  [Kuta Software](http://www.kutasoftware.com/free.html)  [Illuminations](http://illuminations.nctm.org/) | | | |