Bartlett City Schools’ Geometry instructional maps are standards-based maps driven by the TN Standards and implemented using a variety of educational resources.

Students should enter Geometry with an understanding and the ability to solve and interpret linear equations and associated graphs, be familiar with quadratic equations, understand the Pythagorean Theorem, be able to identify two- and three- dimensional shapes, and be familiar with the basic geometric (measurement) formulas. Geometry provides a graphical and visual representation of the mathematical world around us. These representations should be included across all objectives. Students should be given an opportunity to develop spatial sense and an understanding of a variety means of providing reasoning, mathematical arguments, and proofs. The justifications used in geometry should include a variety of techniques including paragraph and algebraic proofs. Technology should be a component of the instruction. The instructional approach should provide opportunities for students to work together collaboratively and cooperatively as they solve routine and non-routine problems. Communication strategies should include reading, writing, speaking, and critical listening as students present and evaluate mathematical arguments, proofs, and explanations about their reasoning. Physical materials should continue to be part of the development of mathematical understanding.

The Tennessee State Standards will prepare students with essential knowledge and skills to compete in an increasingly global environment. These standards emphasize thinking, problem-solving and creativity through next generation assessments that go beyond multiple-choice tests to increase college and career-readiness among Tennessee students. Additional information for Tennessee educators, as well as curricular resources and math tasks can be found at the TN Core website at [www.tncore.org](http://www.tncore.org)

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

[**The Standards for Mathematical Practice**](http://www.corestandards.org/Math/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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| **TN Standards** | **Scope/Clarification &**  **Learning Outcomes** | | **Content & Tasks** |
| **Chapter 7 (Part #2) – Proportions and Similarity (continued)**  **(Allow 2.5 weeks for instruction, review, and assessment)** | | | |
| Prove geometric theorems  G.CO.C.10   * Prove theorems about triangles. Theorems include but are not limited to: measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.   Make geometric constructions  G.CO.D.12   * Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.   Use coordinates to prove simple geometric theorems algebraically  G.GPE.B.4   * Find the point on a directed line segment between two given points that partitions the segment in a given ratio.   Prove theorems using similarity  G.SRT.B.4   * Prove theorems about similar triangles.   G.SRT.B.5   * Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures. | | *Scope & Clarifications*   * G.CO.C.10 - Proving includes, but is not limited to, completing partial proofs; constructing two-column or paragraph proofs; using transformations to prove theorems; analyzing proofs; and critiquing completed proofs. Theorems include but are not limited to: measures of interior angles of a triangle sum to 180o; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. * G.CO.D.12 – Constructions include but are not limited to: copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; constructing a line parallel to a given line through a point not on the line, and constructing the following objects inscribed in a circle: an equilateral triangle, square, and a regular hexagon. * G.SRT.B.4 – Proving includes, but is not limited to, completing partial proofs; constructing two-column or paragraph proofs; using transformations to prove theorems; analyzing proofs; and critiquing completed proofs. Theorems include but are not limited to: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.   *Learning Outcomes*   * Use proportional parts within triangles and with parallel lines to solve contextual problems. | Lesson 7-4 – Parallel Lines and Proportional Parts  [TI-84 Activity - Midsegments](http://education.ti.com/en/us/activity/detail?id=23EC27AF2F5B4886B36FF14D70B67820) |
| Prove theorems using similarity  G.SRT.B.4   * Prove theorems about similar triangles.   G.SRT.B.5   * Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures. | | *Scope & Clarifications*   * G.SRT.B.4 – Proving includes, but is not limited to, completing partial proofs; constructing two-column or paragraph proofs; using transformations to prove theorems; analyzing proofs; and critiquing completed proofs. Theorems include but are not limited to: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.   *Learning Outcomes*   * Recognize and use proportional relationships of corresponding angle bisectors, altitudes, and medians of similar triangles. * Prove and use the triangle bisector theorem. | Lesson 7-5 – Parts of Similar Triangles and Geometry Lab 7-5 Fractals  [TI-84 Activity – Exploring Self-Similar Shapes](http://education.ti.com/en/us/activity/detail?id=55873180F0C5406A83F1484122326EC3) |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).   Understand similarity in terms of similarity transformations  G.SRT.A.1   * Verify informally the properties of dilations given by a center and a scale factor.   G.SRT.A.2   * Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.   G.SRT.A.3   * Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.   Prove theorems using similarity  G.SRT.B.5   * Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures. | | *Scope & Clarifications*   * G.SRT.A.1 – Properties include but are not limited to: a dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center of the dilation unchanged; the dilation of a line segment is longer or shorter in the ratio given by the scale factor.   *Learning Outcomes*   * Identify similarity transformations. * Verify similarity after a similarity transformation on a coordinate plane. | Lesson 7-6 – Similarity Transformations |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).   Use coordinates to prove simple geometric theorems algebraically  G.GPE.B.4   * Find the point on a directed line segment between two given points that partitions the segment in a given ratio.   Understand similarity in terms of similarity transformations  G.SRT.A.1   * Verify informally the properties of dilations given by a center and a scale factor. | | *Scope & Clarifications*   * G.SRT.A.1 – Properties include but are not limited to: a dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center of the dilation unchanged; the dilation of a line segment is longer or shorter in the ratio given by the scale factor.   *Learning Outcomes*   * Verify informally the properties of dilations given by a center and a scale factor:  1. A dilation takes a line passing through the center of the dilation to a parallel line, and leaves a line passing through the center of the dilation unchanged.   b. The dilation of a line segment is longer or shorter  in the ratio given by the scale factor.   * Apply the major concepts of transformations to analyze geometric objects with and without technology. | ***Lesson 9-6 – Dilations***  [On Line Math Learning - Dilation](http://www.onlinemathlearning.com/dilation-transformation.html) |
| Apply geometric concepts in modeling situations  G.MG.A.1   * Use geometric shapes, their measures, and their properties to describe objects.   G.MG.A.2   * Apply geometric methods to solve real-world problems. | | *Scope & Clarifications*   * G.MG.A.1 – For example, model as a tree turn or a human torso. * G.MG.A.2 – Geometric methods may include but are not limited to using geometric shapes, the probability of a shaded region, density, and design problems.   *Learning Outcomes*   * Use geometric shapes, their measures, and their properties to describe objects. * Apply geometric methods to solve real-world problems. | Lesson 7-7 – Scale Drawings and Models  TI-84 Activities:  [Wing Tabs Saves Fuel](http://education.ti.com/en/us/activity/detail?id=45C3F04D6F514702892B4D930B2158D5)  [What’s the Scale?](http://education.ti.com/en/us/activity/detail?id=2E32C34D1AE64B768C3D4347D59EF880) |
| **Chapter 8 – Right Triangles and Trigonometry**  **(Allow 3 weeks for instruction, review, and assessment)** | | | |
| Prove theorems using similarity  G.SRT.B.4   * Prove theorems about similar triangles.   G.SRT.B.5   * Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures. | *Scope & Clarifications*   * G.SRT.B.4 – Proving includes, but is not limited to, completing partial proofs; constructing two-column or paragraph proofs; using transformations to prove theorems; analyzing proofs; and critiquing completed proofs. Theorems include but are not limited to: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.   *Learning Outcomes*   * Prove the right triangle geometric mean theorems. * Solve problems involving relationships between parts of a right triangle and the altitude to its hypotenuse. | | Lesson 8-1 – Geometric Mean  [Math Warehouse – Similar Triangles and Geometric Mean](http://www.mathwarehouse.com/geometry/similar/triangles/geometric-mean.php)  [Can a Geometric Mean be Nice?](http://mste.illinois.edu/dildine/sketches/meanalt1.html) |
| Define trigonometric ratios and solve problems involving right triangles  G.SRT.C.8 (a)   * Know and use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. | *Scope & Clarifications*   * Ambiguous cases will not be included in assessment.   *Learning Outcomes*   * Know and use the Pythagorean theorem and its converse to solve problems. * Know and use Pythagorean triples to find the length of a missing leg of a right triangle. | | Geometry Lab 8-2 Developing the Pythagorean Theorem with Patty Paper and Algebra  Lesson 8-2 – The Pythagorean Theorem and Its Converse  [Explore the Pythagorean Theorem](http://www.shodor.org/interactivate/lessons/PythagoreanTheorem/)  [Proofs of the Pythagorean Theorem](http://www.cut-the-knot.org/pythagoras/index.shtml)  [Khan Academy Video](http://www.khanacademy.org/video/the-pythagorean-theorem?playlist=Geometry)  TI-84 Activities:  [President Garfield’s Proof](http://education.ti.com/en/us/activity/detail?id=194C915DF656464A99818045F0A58781)  [NUMB3RS - Traffic](http://education.ti.com/en/us/activity/detail?id=EBE2FFEA123D4941B85946408A4057EA) |
| Define trigonometric ratios and solve problems involving right triangles  G.SRT.C.6   * Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. | *Scope & Clarifications*   * There are no assessment limits for this standard. The entire standard is assessed in this course.   *Learning Outcomes*   * Know and apply the properties of 45-45-90 and 30-60-90 triangles. | | Lesson 8-3 – Special Right Triangles  [Math for Morons Like Us](http://library.thinkquest.org/20991/geo/stri.html)  [Proof of 30-60-90 and 45-45-90](http://mrperezonlinemathtutor.com/G/3_3_Using_30_60_90_and_45_45_90_ratios.html) |
| Define trigonometric ratios and solve problems involving right triangles  G.SRT.C.6   * Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.   G.SRT.C.7   * Explain and use the relationship between the sine and cosine of complementary angles.   G.SRT.C.8 (a)   * Know and use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. | *Scope & Clarifications*   * G.SRT.C.8 (a) – Ambiguous cases will not be included in assessment.   *Learning Outcomes*   * Find trigonometric ratios using right triangles. * Explain and use the relationship between the sine and cosine of complementary angles. * Use trigonometric ratios to find angle measures in right triangles. | | Lesson 8-4 – Trigonometry  [The 6 Trig Functions](http://www.regentsprep.org/Regents/math/algtrig/ATT1/indexATT1.htm)  [Summary of Trig](http://www.regentsprep.org/Regents/math/algtrig/math-ALGTRIG.htm#m7)  [Making a Inclinometer](http://www.exploratorium.edu/math_explorer/howHigh_makeInclino.html)  [On Line Math – Trig Ratios](http://www.onlinemathlearning.com/basic-trigonometric-ratios.html)  [TI-84 Activity – Height of Flagpole](http://education.ti.com/en/us/activity/detail?id=667E40402FF24CD585A3E2DB4B408957)  **TASK** [What's Your Sine?](http://tncore.org/sites/www/Uploads/CRA_Tasks/npIFL/0GeomWhatsYourSine.pdf)  **TASK** [Playing Catch](http://tncore.org/sites/www/Uploads/CRA_Tasks/npIFL/0GeomPlayingCatch.pdf)  **TASK** [Television Size](http://tncore.org/sites/www/Uploads/CRA_Tasks/npIFL/0GeomTelevisionSize.pdf) |
| Define trigonometric ratios and solve problems involving right triangles  G.SRT.C.8 (a)   * Know and use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. | *Scope & Clarifications*   * There are no assessment limits for this standard. The entire standard is assessed in this course.   *Learning Outcomes*   * Solve problems involving angles of elevation and depression. * Use angles of elevation and depression to find the distance between two objects. | | Lesson 8-5 – Angles of Elevation and Depression  [TI-84 Activity – Telling Time with the Sun](http://education.ti.com/en/us/activity/detail?id=D35BCCE01EBD409CA0CD91CFEC5C1078)  **TASK** [Skate Park](http://tncore.org/sites/www/Uploads/CRA_Tasks/Math/Geo-SkateParkAnchorSet_Final.pdf) |
| Define trigonometric ratios and solve problems involving right triangles  G.SRT.C.8 (b)   * Know and use the Law of Sines and Law of Cosines to solve problems in real life situations. Recognize when it is appropriate to use each. | *Scope & Clarifications*   * There are no assessment limits for this standard. The entire standard is assessed in this course.   *Learning Outcomes*   * Know and use the Law of Sines and Law of Cosines to solve problems in real life situations. Recognize when it is appropriate to use each. | | Lesson 8-6 – The Law of Sines and Cosines  [Applet showing Ambiguous Case](http://orion.math.iastate.edu/trig/sp/xs08/applets/SSA.html)  [Animation of Ambiguous Case](http://www.csun.edu/~arc63158/618/flash%20animation/flash-animation-project.html)  [Law of Sine Practice](http://www.algebralab.org/Word/Word.aspx?file=Trigonometry_LawSines.xml)  [Law of Cosine Practice](http://www.algebralab.org/Word/Word.aspx?file=Trigonometry_LawCosines.xml) |
| \*Optional Section | Optional Section (Time not accounted for in curriculum guide) | | Lesson 8-7 – Vectors  [On Line Math Learning - Vectors](http://www.onlinemathlearning.com/vectors.html)  [NCTM Lesson – Learn about Vectors using Dynamic Software](http://illuminations.nctm.org/LessonDetail.aspx?ID=U144) |
| **Chapter 9 – Transformations and Symmetry**  **(Allow 2.5 weeks for instruction, review, and assessment)** | | | |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not   G.CO.A.4   * Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   G.CO.A.5   * Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   Understand congruence in terms of rigid motions  G.CO.B.6   * Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motions on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   G.CO.B.7   * Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.   Make geometric constructions  G.CO.D.12   * Make formal geometric constructions with a variety of tools and methods. | *Scope & Clarifications*   * G.CO.A.5 – Rigid motions include rotations, reflections, and translations. * G.CO.D.12 - Constructions include but are not limited to: copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; constructing a line parallel to a given line through a point not on the line, and constructing the following objects inscribed in a circle: an equilateral triangle, square, and a regular hexagon.   *Learning Outcomes*   * Reflect a figure in a line. * Reflect a figure in a horizontal or vertical line or a coordinate plane. * Reflect a figure in the x-axis or y-axis. * Reflect a figure in the line y = x. | | Lesson 9-1 – Reflections  [Math Warehouse - Transformations](http://www.mathwarehouse.com/transformations/)  [Sketchpad Explorer for the iPad](https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?ls=1&mt=8) |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).   G.CO.A.4   * Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   G.CO.A.5   * Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   Understand congruence in terms of rigid motions  G.CO.B.6   * Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motions on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   G.CO.B.7   * Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. | *Scope & Clarifications*   * G.CO.A.5 – Rigid motions include rotations, reflections, and translations.   *Learning Outcomes*   * Draw translations. * Draw translations in the coordinate plane. | | Lesson 9-2 – Translations |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).   G.CO.A.4   * Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   G.CO.A.5   * Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   Understand congruence in terms of rigid motions  G.CO.B.6   * Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motions on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   G.CO.B.7   * Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.   Make geometric constructions  G.CO.D.12   * Make formal geometric constructions with a variety of tools and methods. | *Scope & Clarifications*   * G.CO.A.5 – Rigid motions include rotations, reflections, and translations. * G.CO.D.12 - Constructions include but are not limited to: copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; constructing a line parallel to a given line through a point not on the line, and constructing the following objects inscribed in a circle: an equilateral triangle, square, and a regular hexagon.   *Learning Outcomes*   * Draw rotations. * Draw rotations in a coordinate plane. * Construct transformations and make conjectures about the transformed figure. | | Lesson 9-3 – Rotations and Geometry Lab 9-3 Rotations (with patty paper)  Geometry Lab 9-3 – Solids of Revolution  **TASK** [Hexagon Art](http://tncore.org/sites/www/Uploads/CRA_Tasks/npIFL/0GeomHexagonArt.pdf) |
| Experiment with transformations in the plane  G.CO.A.2   * Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).   G.CO.A.4   * Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   G.CO.A.5   * Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   Understand congruence in terms of rigid motions  G.CO.B.6   * Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motions on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   G.CO.B.7   * Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. | *Scope & Clarifications*   * G.CO.A.5 – Rigid motions include rotations, reflections, and translations.   *Learning Outcomes*   * Use technology to construct the composition of transformations. * Draw glide reflections and other compositions of isometries in the coordinate plane. * Draw compositions of reflections in parallel and intersecting lines. | | Lesson 9-4 – Composition of Transformations  and  Geometry Lab 9.4 – Tessellations  [Transformational Geometry Notes](http://regentsprep.org/regents/math/geometry/math-GEOMETRY.htm#m5)  [Transformation Games](http://www.onlinemathlearning.com/transformation-games.html)  [TI-84 Activity - Transformations](http://education.ti.com/en/us/activity/detail?id=4E2183B829B645C583D8AFBCF185A66F&ref=%2Fcalculators%2Fdownloads%2FUS%2FActivities%2FSearch%2FSubject%3Fs%3D5022%26sa%3D5024%26t%3D5055%26d%3D9)  <http://www.tessellations.org/>  [Applet for Tessellations](http://www.shodor.org/interactivate/activities/Tessellate/) |
| Experiment with transformations in the plane G.CO.A.3   * Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry the shape onto itself. | *Scope & Clarifications*   * There are no assessment limits for this standard. The entire standard is assessed in this course.   *Learning Outcomes*   * Identify line and rotational symmetries in two-dimensional figures. * Identify plane and axis symmetries in three-dimensional figures. * Given a variety of figures, describe the rotations and reflections that carry the shape onto itself. | | Lesson 9-5 – Symmetry |

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| **RESOURCE TOOLBOX:**  **FORMATIVE ASSESSMENT**  Compass Learning Odyssey:<https://www.thelearningodyssey.com/>  Discovery Education:<http://www.discoveryeducation.com/>  **GLENCOE TOOLS**  [ConnectED Site - Textbook and Resources](http://connected.mcgraw-hill.com/connected/login.do)  [Glencoe Video Lessons](http://glencoe.mcgraw-hill.com/sites/0078884845/sitemap.html?resource=personaltutor)  [Hotmath - solutions to odd problems](http://hotmath.com/help/bookindexes/cumminsgtn12/)  **Comprehensive Geometry Help:**  <http://www.onlinemathlearning.com/geometry-help.html>  <http://illuminations.nctm.org/>  [I Love Math - Geometry](http://www.ilovemath.org/index.php?option=com_docman&task=cat_view&gid=27)  <http://jc-schools.net/dynamic/math/math11.html>  <https://njctl.org/courses/math/geometry/>  **Geometry Test Prep:**  [USA Test Prep](http://usatestprep.com/Member-Login)  [Regents Exam Prep Center](http://www.regentsprep.org/regents/math/geometry/math-GEOMETRY.htm#m1)  <http://cuacs8.mck.ncsu.edu/mathsampleitems/main.html>  **ACT Test Prep**: <http://www.actstudent.org/testprep/>  **GEOMETRY UNITS WITH EXAMPLES** <http://teachers.henrico.k12.va.us/math/igo/>  <http://caccssm.cmpso.org/geometry-task-force/geometry-resources>  <http://mdk12.org/instruction/curriculum/mathematics/index.html>  **VIDEOS**  <https://www.khanacademy.org/math/geometry>  <http://www.teachertube.com/>  [http://www.mathtv.com/videos\_by\_topic#](http://www.mathtv.com/videos_by_topic)  [The Teaching Channel](https://www.teachingchannel.org/)  **TECHNOLOGY-GRAPHING CALCULATORS:**  <http://www.ti-mathnspired.com>  <http://education.ti.com/educationportal/activityexchange/activity>  <http://www.casioeducation.com/educators>  <http://www.stemresources.com/>  <http://www.ilovemath.org/index.php?option=com_docman>  <http://mathbits.com/MathBits/TISection/Openpage.htm> | **ADDITIONAL TASK RESOURCES:**  [Mathematics Assessment Project](http://map.mathshell.org/materials/tasks.php?taskid=265&subpage=apprentice)  [The Charles A Dana Center](http://www.utdanacenter.org/k12mathbenchmarks/tasks/tasks.php)  [NYC Dept of Education - Units with Tasks](http://schools.nyc.gov/Academics/CommonCoreLibrary/TasksUnitsStudentWork/default.htm)  [Georgia Dept of Education - Units with Tasks](https://www.georgiastandards.org/Common-Core/Pages/Math-9-12.aspx)  **\*Graphing Calculator Note:** [TI tutorials](http://movies.atomiclearning.com/k12/search?p=25&lang=en*&q=TI+84&submit=Go%21) are available through **Atomic Learning** and also at the following link: [Math Bits - graphing calculator steps](http://mathbits.com/MathBits/TISection/Openpage.htm)  Some activities require calculator programs and/or applications. Use the following link to access **FREE software for your MAC**. This will enable your computer and TI Calculator to communicate**:** [Free TI calculator downloads](http://education.ti.com/educationportal/downloadcenter/SoftwareDetail.do?website=US&tabId=1&appId=286)  SOFTWARE  [GeoGebra](http://www.geogebra.org/cms/en/) – Free software for dynamic math and science learning  [NCTM Math Tools](http://www.nctm.org/resources/content.aspx?id=32702)  <http://www.keycurriculum.com/products/sketchpad> (Not free)  Any activity using Geometer’s Sketchpad can also be done with any software that allows construction of figures and measurement, such as Cabri, Cabri Jr. on the TI-83 or 84 Plus, TI-92 Plus, or TI-Nspire. |