



Bridging for Math Strength Resources

[Standards of Learning Curriculum Framework](#)

Standard of Learning (SOL) 7.6b Determine unknown side lengths or angle measures of quadrilaterals.



Student Strengths	Bridging Concepts	Standard of Learning
The student can determine the missing angle measure within a triangle The students can determine the perimeter in standard units of measure.	The student will differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	Students can determine unknown side lengths or angle measures of quadrilaterals.

Understanding the Learning Trajectory

Big Ideas:

- Quadrilaterals are classified and categorized based on properties such as equivalent or parallel.
- Properties can be used to determine unknown quantities.

Formative Assessment:

- VDOE Just in time Quick Check [SOL 7.6b](#) (Word) / [PDF](#) / [Desmos](#)

Important Assessment Look Fors:

- The student can apply the properties of the sides of quadrilateral to practical problems
- The students can apply the properties of the angles of quadrilateral to practical problems

Purposeful Questions:

- Which property of quadrilaterals did you apply to solve this problem?
- What information in the problem helped you determine the quadrilateral that applied to this question?

Bridging Activity to Support Standard	Instructional Tips
Routine Always/Sometimes/Never	Geometry 27, 26, and 20: These slides allow the students to consider the application of the properties of quadrilaterals.
Rich Tasks A Cartesian Puzzle	The students will use the concept of symmetry to complete quadrilaterals in the coordinate plane. Teachers can specify the type of quadrilateral the students must construct or the teacher can allow the students autonomy to create whichever type the student feels fits the symmetry requirement.
Games/Tech Interactive Quadrilaterals Guess My Quad	The students can alter the type of quadrilateral, manipulate the angles, sides, and diagonals of each and explore how the properties present themselves in each applicable figure. Students will work with a partner and ask questions to identify a specific type of quadrilateral. This game includes quadrilaterals beyond those covered in the VA SOL. Teachers can print off the activity and utilize only those shapes which are covered within the classroom.
Other Resources: • VDOE Mathematics Instructional Plans (MIPS) ◦ 7.6b - Quadrilaterals – Measures of Sides and Angles (Word) / PDF Version • VDOE Word Wall Cards: Grade 7 (Word) (PDF) ◦ Quadrilateral Relationships ◦ Parallelogram ◦ Rhombus ◦ Rectangle ◦ Square ◦ Trapezoid Learning Trajectory Resources: Charles, R. (2005). Big ideas and understandings as the foundation for elementary and middle school mathematics. <i>Journal of Mathematics Education Leadership</i>, 7(3), NCSM. Clements, D. H., & Sarama, J. (2019). Learning and teaching with learning trajectories [LT]2. Marsico Institute, Morgridge College of Education, University of Denver. https://www.learningtrajectories.org/ Common Core Standards Writing Team. (2019). Progressions for the Common Core State Standards for Mathematics. Tucson, AZ: Institute for Mathematics and Education, University of Arizona. Richardson, K. (2012). How Children Learn Number Concepts: A Guide to Critical Learning Phases. Bellingham: Math Perspectives Teacher Development Center. Van De Walle, J., Karp, K. S., & Bay-Williams, J. M. (2018). <i>Elementary and Middle School Mathematics: Teaching Developmentally</i>. (10th edition) New York: Pearson (2019:9780134802084) VDOE Curriculum Framework for All Grades - Standard of Learning Curriculum Framework (SOL)	