

Special Quadrilaterals Exploration

by – Jennifer Wilson

Activity overview

Students are given a TI-Nspire file with special quadrilaterals so that they can use the dynamic measurement capabilities of the TI-Nspire to explore which properties always hold true for each quadrilateral.

Concepts

Properties of Special Quadrilaterals: Parallelogram, Rectangle, Rhombus, Square, Trapezoid, Isosceles Trapezoid, Kite, Cyclic Quadrilateral

Teacher preparation

*Ensure that the file **Special Quadrilaterals Exploration.tns** is on each student handheld. Students may type solutions into the file or you may copy the student handout for them to organize the properties.*

Classroom management tips

When I used this activity, I had each group explore one quadrilateral in-depth and report their findings to the class.

TI-Nspire Applications

Graphs & Geometry

Student TI-Nspire Document

Special Quadrilaterals Exploration.tns



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Grade level: 9-12

Subject: Geometry

Time required: 60 minutes

Special Quadrilaterals Exploration: Use the chart to organize which properties are true for each quadrilateral. Be sure to specify if the property is only true for a certain number of pairs of angles, pairs of sides, or diagonals.

	Parallelogram	Rectangle	Rhombus	Square	Trapezoid	Isosceles Trapezoid	Kite	Cyclic Quadrilateral
1. Are opposite sides parallel?								
2. Are opposite sides congruent?								
3. Are all sides congruent?								
4. Are consecutive sides congruent?								
5. Are opposite angles congruent?								
6. Are opposite angles supplementary?								
7. Are consecutive angles supplementary?								
8. Are consecutive angles congruent?								
9. Are all angles right?								
10. Are the diagonals congruent?								
11. Are the diagonals perpendicular?								
12. Do the diagonals bisect each other?								
13. Do the diagonals bisect opposite angles?								
14. Do the diagonals form two congruent triangles?								