

Geometer's Sketchpad

Quadrilaterals ~ Parallelograms

Content: Geometry
Topic: Exploring quadrilaterals and discovering the properties of parallelograms using the Geometer's Sketchpad software. It is expected that students already have experience using this software and are familiar with basic construction techniques using the Geometer's Sketchpad.

OBJECTIVES:

The student should be able to:

1. Define a quadrilateral.
2. Define a convex quadrilateral.
3. Define a parallelogram.
4. List the properties of parallelograms
5. Discuss the differences between specific parallelograms (square, rectangle, rhombus)

MATERIALS

Geometer's Sketchpad software on a Windows/Macintosh based computer
Lesson worksheets

PROCEDURES

The teacher will:

1. Give an overview of the activity and goals using lecture.
2. Facilitate student use of Geometer's Sketchpad to construct quadrilaterals and to explore the properties of different types of quadrilaterals such as parallelograms.
3. Facilitate student 'brainstorming' session to discover the rhombus, square and rectangle.
4. Discuss the properties of quadrilaterals and the properties of parallelograms.

The students will:

1. Use Geometer's Sketchpad to explore quadrilaterals and discover the properties of a type of quadrilateral called the parallelogram.
2. Work in small groups (with Geometer's Sketchpad) to brainstorm the differences/similarities between the square, rectangle and rhombus.
3. Complete handouts

CLOSURE

Students groups will present their ideas to the class concerning the brainstorming session and any questions on quadrilaterals will be discussed at this time. Instructor will wrap up lesson by asking questions to review all concepts covered.

ASSESSMENT

Assessment will be based on student completion and accuracy of the lesson handouts. Students will be expected to complete the handouts with 85% accuracy.