

Properties of Parallel Lines

by – Matt Rhodes

Activity overview

- *This is a self-contained file that is designed to incorporate the TI-Nspire Navigator system which provides for a paperless activity that can be easily managed during and after the class period.*
- *Students will investigate the relationships formed when two parallel lines are cut by a transversal. They will make visual observations from angle measurements.*
- *This is a great activity for beginner Nspire users. It allows them to move through the document easily and leads them to desired conclusions and applicable examples.*

Concepts

Angle relationships when two parallel lines are cut by a transversal.

Teacher preparation

The students need to be able to identify the basic angle relationships when parallel lines are cut by a transversal (corresponding, alternate interior, same-side exterior, etc.).

Students should know navigation on the TI-Nspire. They will need to be able to move from page to page as well as within frames of a page layout. Also, they need a basic understanding of the Angle Measurement tool.

Classroom management tips

Students can be placed in groups of 3-4 or this activity can be presented as a teacher lead discussion and discovery.

TI-Nspire Applications

The following applications are used (either TI-nspire or TI-nspire CAS will work):

- *Graphs and Geometry*
 - *Open Response Questions*
 - *Notes*
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Step-by-step directions

Problem 2

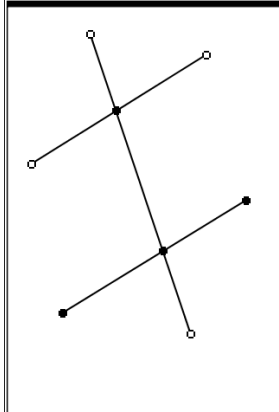
Students will measure each angle on page 2.2. To activate the *Angel Measurement* tool, choose



Notes –

- Answers are provided in the *Suggested Response* field each time a question is asked. These are not visible to the students.
- Only open dots can be moved.

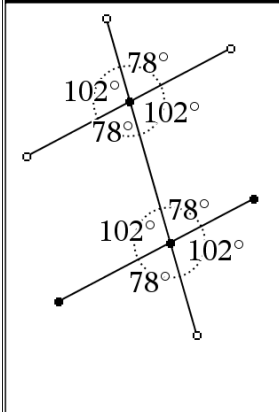
On pages 2.4 – 2.8, students will make observations concerning each type of angle relationship.



What do you notice about the angle measures? Put your answer below and in your notes.

Student types answer here

Suggested Respo...



Look at the two pairs of alternate interior angles in the figure. Make an observation.

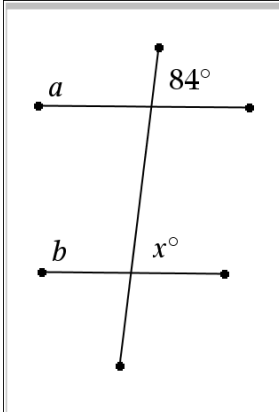
Student types answer here

Suggested Respo...

Problem 3 –

On these screens, the students will be lead through some simple examples that will have them working problems before any lectures are given.

As always, answers are provided.



If $a \parallel b$, find the value of x ?

Student types answer here

Suggested Response:
 $x = 84$

Assessment and evaluation

Use the tools of the Navigator software for ongoing formative assessment during the activity.

Activity can be collected and graded using the Portfolio tool.

Student TI-Nspire Document

Properties of Parallel Lines.tns