

## Slope, midpoint and distance

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### Activity overview

The student will interact with a line segment and will report various conditions on a handout. Positive, negative slope, distance, and midpoints will dynamically calculate as the student drags either endpoint around.

### Concepts

Slope, midpoint, distance, fractions, decimals, radicals, positive and negative slope.

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### Teacher preparation

Students will need to have instruction with all formulas, and calculating by hand from ordered pairs. Knowledge of positive and negative slope is important. Radicals that produce exact answers and reduced fractions are not provided by the TI-Nspire graph.

### Classroom management tips

### TI-Nspire Applications

Notes, Graphs and Geometry, Calculator

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### Step-by-step directions

A student handout is provided along with the alg\_slopedmidptdist.tns file. Student screenshots are also provided on slopedmidpt\_screenshots.doc.

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### Assessment and evaluation

Formative assessment is provided to the teacher when the student document is complete. Remediation can be provided before a Summative assessment is given. Students can demonstrate how they solved the problems and discuss their work when displayed via a document camera.

### Activity extensions

- *Have students identify various types of slopes in digital photographs found in the news, magazines, or on the internet. Students could be asked to take digital pictures or Polaroid photos that demonstrate the different slopes.*
  - *Word problems or scenarios could be presented that involved using the distance formula or midpoint formula to find a location. Students could write their own story problems and share them with each other. The Geometric construction of the midpoint could be performed either by hand on paper, or in the Geometry application on the TI-Nspire.*
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### Student TI-Nspire Document

slopedmidpt\_studentdirections.doc

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