TI-nspire™

Triangles and Slopes

By Sherri Abel

Time required
45 minutes

Activity Overview

Students will create triangles that match specific criteria. If it is possible to draw the triangle, the students have to state the slope of each side. If the triangle is impossible to draw, the students must write a detailed explanation as to why it is impossible.

Concepts

- *Find the slope of a series of segments and to review classifications of triangles.*

Teacher Preparation

This activity is appropriate for an Algebra 1 or Geometry classroom.

- *Students should have experience calculating slope given two points or a graph. They should also review the different types of triangles and their attributes.*
- *The screenshots on page 3 shows the thumbnails of the student document.*
- *Sample solutions for this activity can be found in Triangles and Slope.tns file.*

Classroom Management

- *This activity is intended to be **student-centered** with brief periods of group instructions. You should seat your students in pairs so they can work cooperatively on their handhelds and circulate among them, offering assistance as needed.*
- *The student .tns file provides instructions for the completion of the activity. It also serves as a place for students to record their answers. Alternatively, you may wish to have the class record their answers on separate sheets of paper.*
- *The TI-Nspire solution document, Triangles and slopes soln.tns, shows the expected results of working through the activity.*

TI-Nspire™ Applications

Graphs and Geometry, Notes

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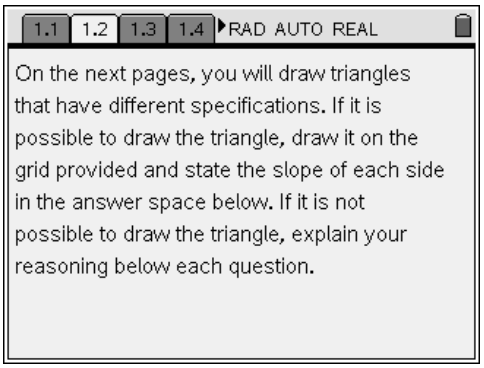
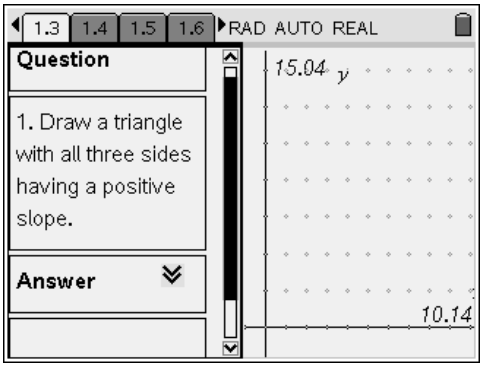
Problem – Finding Slopes

In this activity, the students are determining whether they can create a triangle given certain constraints. If they can, they will construct the triangle and find the slope of each side. If the triangle cannot be constructed, the students must explain why its construction is impossible.



It is important for the teacher to review the attributes of right, acute, obtuse, isosceles, and equilateral triangles.

On pages 1.3 – 1.9, the students will be prompted to construct a triangle with given attributed on the grid to the right. The students will then write the slope for each side of the triangle in the space provide under the prompt. If the construction is not possible, the students will simply put their explanation in the space under the prompt.



Students should work through all of the problems and then compare their answers with their partners. Have students present their findings to the class.

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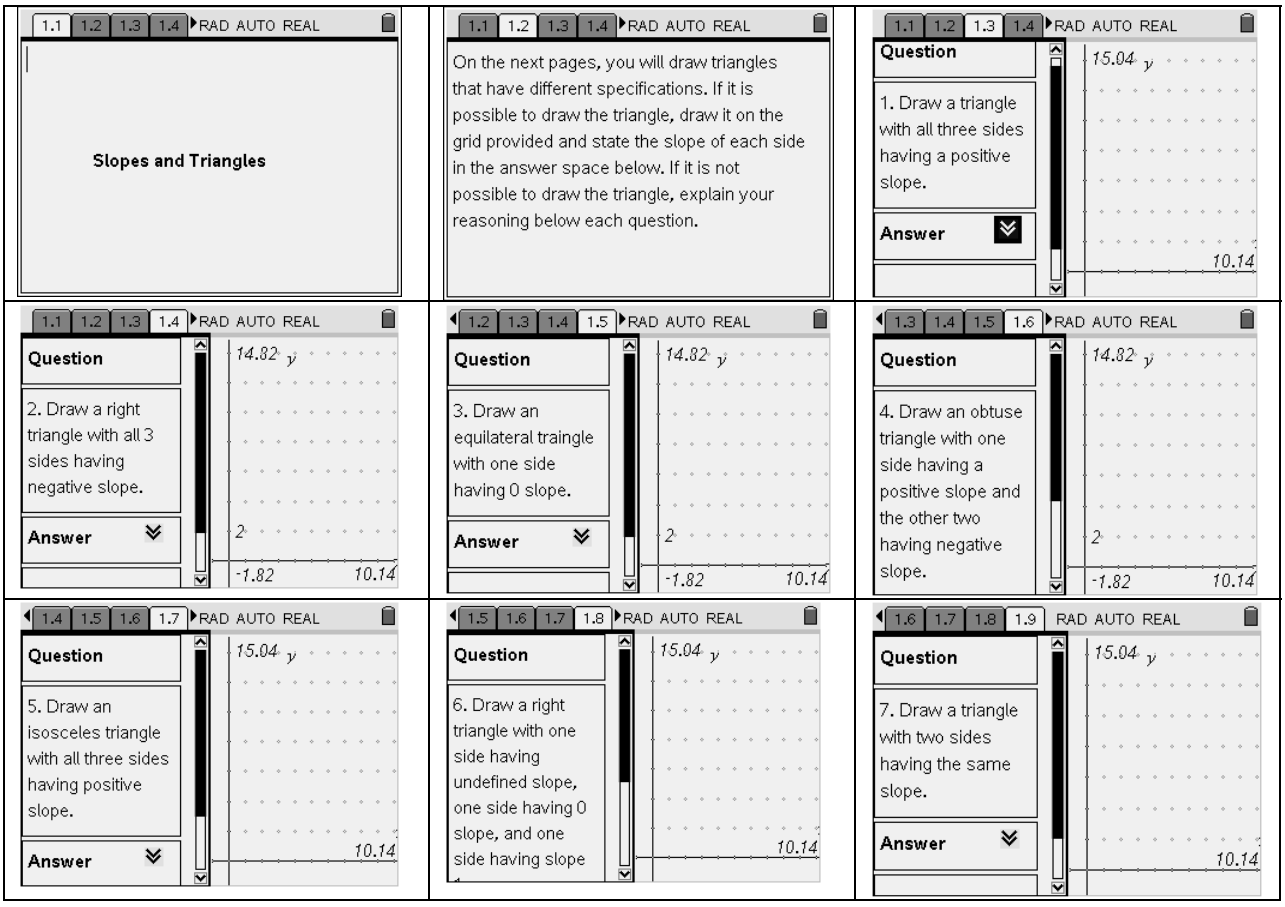
Triangles and Slope

(Student)TI-Nspire File



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