TI-*nspire*™

Graphs of Tangent, Cotangent, Secant, and Cosecant

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Activity overview

The goal of this activity is for students to see how the graphs of tangent, cotangent, secant, and cosecant are generated and related to the unit circle. A point is animated around the unit circle as data points are captured to create a scatter plot. Students discover a way to relate each of these trigonometric functions to sine and cosine.

Concepts

Unit Circle, Sine Functions, Cosine Functions, other Trigonometric Functions

Classroom management tips

Instruct students on how to navigate between each page of the applet beforehand.

TI-Nspire Applications

Graphs and Geometry, Spreadsheet, Notes

Step-by-step directions

The applet is designed to be used by the students individually. All questions and answers are to be completed on the calculator. Follow all directions on each page of this applet. When you complete each page navigate to the next page by pressing ctrl right arrow. If you need to go back to previous pages press ctrl left arrow.

Activity extensions

- *Which trigonometric functions appear to be in pairs and why?*
- *Which trigonometric functions never intersect one another?*

Student TI-Nspire Document

graphsoftancotsecscs.tns