Unit 16: Polar Coordinates

Content Area: **Mathematics**
Course(s): **PreCalc Trig H**
Time Period: **Semester 2**
Length: **2 weeks**
Status: **Published**

Standards - NJCCS/CCSS

Enduring Understandings

Polar coordinates and rectangular coordinates describe the same points in different notations.

In some cases, the polar coordinate system provides a more elegant representation than the rectangular system.

Essential Questions

What is the polar coordinate plane?

Why do we use the polar coordinate plane?

What is the benefit of converting equations from rectangular to polar?

How can we graph the "special" polar curves?

How can we find the intersection point of two graphs in the polar coordinate plane?

Knowledge and Skills

SWBAT name points in the rectangular or polar system.

SWBAT graph circles.

SWBAT graph cardiods and limacons.

SWBAT graph rose curves.

SWBAT predict the graph of a spiral.

SWBAT convert rectangular equations to polar equations.

SWBAT convert polar equations to rectangular equations.

SWBAT find the intersection points between two polar curves.

SWBAT demonstrate knowledge of polar coordinates.

Resources

Precalculus with Limits

Authors: Aufmann, Barker, Nation

Graphing Calculator

www.desmos.com

www.flipgrid.com

www.graphfree.com