

Polar Coordinates and Functions Lesson Objectives

Polar Coordinates Lesson

Locate and plot points in the polar coordinate system

Identify additional representations of a point in polar form

Convert coordinates between rectangular and polar forms

Polar Equations Lesson

Convert equations between rectangular and polar form

Graphs of Polar Equations Lesson

Graph a polar equation using point plotting

Identify graphs of polar equations of circles

Write polar equations of a circle given its graph

Use polar symmetry tests to determine if the graph is symmetric about the x-axis, the y-axis, or the origin

Conic Sections in Polar Coordinates Lesson

Identify and graph the polar equations of conic sections

Limaçons Lesson

Identify the graphs of limaçons

Identify and graph the polar equations of limaçons

Rose Curves and Lemniscates Lesson

Identify the graph and equation of a rose curve expressed in polar form

Identify the graph and equation of a lemniscate curve in polar form

Complex Numbers in Polar Form Lesson

Convert complex numbers between rectangular and polar forms

Operations of Complex Numbers in Polar Form Lesson

Find the product of complex numbers in polar form

Find the quotient of complex numbers in polar form

DeMoivre's Theorem Lesson

Prove and apply DeMoivre's Theorem

Find powers of complex numbers in polar and rectangular form

Find roots of complex numbers in polar and rectangular form