

Unit 10 (Chapter 6): Parametric & Polar

6.4 Polar Coordinates: Equation Conversion

Target 10D: Understand the polar coordinate system by performing polar/rectangular coordinate conversions

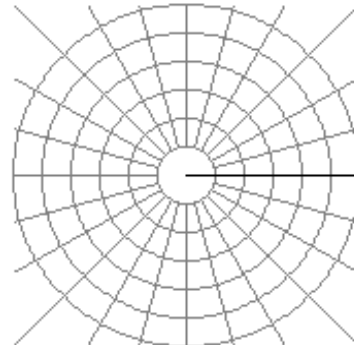
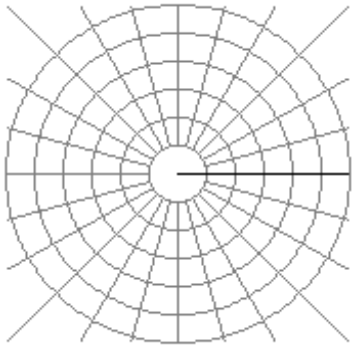
Review of Prior Concepts

1. Find the rectangular coordinates of the point with the polar coordinates $P\left(4, \frac{\pi}{6}\right)$.
2. Find two polar coordinate pairs for the point with rectangular coordinates $Q(3, -3)$.

☒ Use a TI-Nspire to sketch a graph of the polar equations:

1. $r = 4 \cos \theta$

2. $r = 3 \sin 2\theta$



Recall: Polar/Rectangular Coordinate Conversion Equations

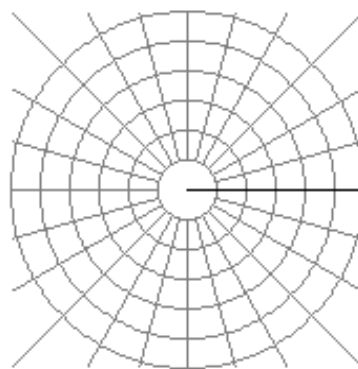
- Convert the polar equation to rectangular form and identify the graph. Support your answer by graphing the polar equation on a TI-Nspire.

3. $r = -6 \csc \theta$

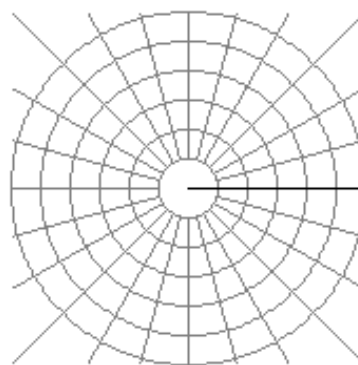
4. $r = 4 \cos \theta$

- Convert the rectangular equation to polar form. Sketch a graph of the polar equation.

5. $x = -4$



6. $(x - 1)^2 + (y + 4)^2 = 17$



More Practice

Polar Equations

http://www.analyzemath.com/polarcoordinates/polar_to_rectangular_eq.html

<http://www.ck12.org/book/CK-12-Trigonometry-Concepts/section/6.6/?noindex=None>

<https://www.math.uh.edu/~mmsosa/Math1330/Calendar/1330Day28.pdf>

http://www.softschools.com/math/pre_calculus/polar_equation_conversion_between_rectangular_form/

<https://youtu.be/29VW-NAd31A>

<https://youtu.be/IKbRiU7kL2w>

<https://youtu.be/9saYZmiQJpk>

Homework Assignment

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