

Graphing Cartesian Functions in Polar Coordinates

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Abstract

As an introduction to the graphing of functions in polar coordinates, the authors propose graphing linear and quadratic functions expressed as $y = f(x)$ in Cartesian coordinates and making use of translated planar vectors (directed line segments) to construct the corresponding polar graph

$r = f(\theta)$, obtained by replacing y by r and x by θ .

This nonstandard approach to introducing polar graphing does not rely on a knowledge of the trigonometric functions, but may serve to enhance the understanding of polar graphs involving trigonometric functions.



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