

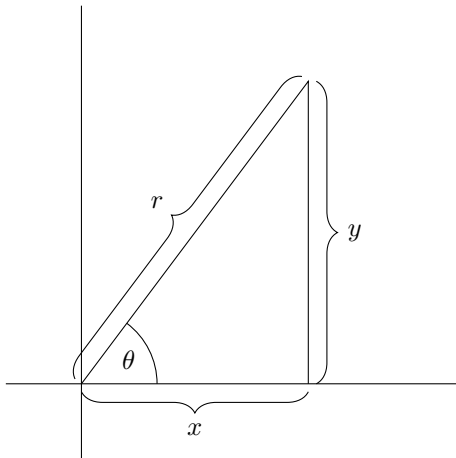
Polar Coordinates

Contents

Basics	2
Definitions	2
Conventions	2
Common Graphs	2

Basics

Definitions



Cartesian coordinates are specified as (x, y) . Polar coordinates are specified as $(r; \theta)$. They are related like so:

$$r^2 = x^2 + y^2$$

$$\tan \theta = \frac{y}{x}$$

$$r \cos \theta = x$$

$$r \sin \theta = y$$

These equations can be used to convert between polar and Cartesian coordinates.

Conventions

Desmos and GeoGebra both draw polar coordinates with negative r values in the opposite direction, with the same absolute distance from the origin.

The book and the A Level exams use a different convention where negative r values are discarded and counted as 0.

Common Graphs

In this section, $a, p, q \in \mathbb{R}$, $b \in \mathbb{N}$.

