**PreCalculus 10.7 Polar Coordinates**

pole

polar axis

Rectangular (Cartesian) Coordinate System Polar Coordinate System

**Plotting Points on the Polar Coordinated System**

Example:

Other names for the same point:

Example:

Other names for the same point:

Example:

Other names for the same point:

**Coordinate Conversion**

Polar-to-Rectangular Rectangular-to-Polar

Example: Convert each point to rectangular coordinates.

Example: Convert each point to polar coordiantes.

**Converting Rectangular Equations to Polar Form**

1. Use substitutions
2. Solve for *r*

Examples:

**Converting Polar Equations to Rectangular Form**

Examples: