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| **OBJECTIVES** (Polar Coordinates, Section 6.4, Pages 479 – 485) |
| * Identify the major parts of the polar coordinate system: the Pole, Polar Axis, and Polar points in the form (r, *θ*).
 |
| * Understand that the Polar point (*r, θ*) has the coordinate *r,* which is the distance from the Pole and the coordinate *θ,* whichis an angular measure, either in degrees or radians.
 |
| * Understand that *(x, y)* is a Rectangular (Cartesian) point.
 |
| * Plot points in the Polar coordinate system.
 |
| * Be able to convert from (*r, θ*) to *(x, y)* by using x = rcos *θ* and y = rsin *θ.*
 |
| * Be able to convert from *(x, y)* to *(r, θ)* by using r = ±√ (x2 + y2) and *θ* = tan-1(y/x).
 |
| * Graph and identify the Common Polar Curves.
 |
| * Use a TI84+ calculator to graph polar functions.
 |
| **The Polar Coordinate System** consists of a ray known as the Polar Axis and the endpoint of the ray, called the Pole. |

**TUESDAY (3.4.25)**

**Entry Work: *Quick Review*** on page 483, #7 – 10.

**Discuss the previously assigned work:**

* Study Example 4 on page 481, *Converting from* ***Rectangular to Polar Coordinates* by using r = ±√ (x2 + y2) and *θ* = tan-1(y/x).**
* Then, do #27 - 30 **(Part (a) only)** on page 484.  **Also,** #31 – 34.

**Discuss the window settings for polar graphing in both radians and degrees.**

**Class Work:** Graph the polar equation, *The Butterfly Curve*, on your TI-84 graphing calculator.

**Homework: Handout to be received in class.**

**THURSDAY (3.6.25)**

**Homework Check and Discussion of the previously assigned handout.**

**Discuss the Equation Conversion of Polar Equations to Rectangular Equations.**

**We will look at *Equation Conversion*** at the bottom of page 481, continuing page 482, and continuing with example 5.

**Class Work:** Page 484: #35 – 41, odds.

**Homework:**

* Page 484, #36 – 42, evens.
* Study Example 6 on page 482.

**FRIDAY (3.7.25) A-Day, No Class**