Name_____

TRIGONOMETRY JOURNAL
COMPLEX NUMBERS

1. ~~To find the coordinates necessary to create a polar graph, your calculator must be changed to _____ mode and the Table Setup must be changed to _____ /~~

2. A real life situation in which it would be more useful to express the location of something in polar coordinates rather than rectangular coordinates is _____ .

3. The two mathematical operations involving complex numbers which can be performed more easily in polar form than in rectangular form are _____ and _____ .

4. List the following formulas and operations.
   a) Formulas for converting rectangular coordinates (x, y) to polar coordinates (r, θ)

   b) Formulas for converting polar coordinates (r, θ) to rectangular coordinates (x, y)

   c) Standard form of a complex number in each of the following forms:

   <u>Rectangular form</u>   <u>Polar Form</u>

   d) Formulas for multiplying and dividing complex numbers in polar form

   e) Formula for raising a complex number in polar form to a power (De Moivre's Theorem)

f) Steps for finding the roots of a complex number in rectangular form