Problems on complex numbers

1.

A. define the complex numbers geometrically.

B. Show that if iff.

2. Prove the following properties:

A.

B.

\*try to prove them geometrically.

3. Prove the following property:

A. Based on your geometric definition of complex number every number can be represented as:

B. If and , then

3. Find the group of numbers in the *Cartesian plane[[1]](#footnote-1)* of the graph rotated by.

4. Prove that if where and ,then

A harder version: try to prove (Q4) geometrically.

1. *Cartesian plane* -The regular x, y plane. [↑](#footnote-ref-1)