



# III BRAC University

Department of Mathematics and Natural Sciences

**Total Points: 15**

**Assignment-01**

**Course Code: MAT215**

Complex

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**Section: 12**

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**Submission Date:** \_\_\_\_\_

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## Question 1

Find all possible values of  $z$  such that

$$z^6 = \frac{729\sqrt{2}(-1 - i)}{2}$$

Locate them in the complex plane. Show that they are contained in a circle and find the radius of that circle. Also find the angular distance between two adjacent roots.

 Solution:

**Question 2**

Consider the equation

$$\left| \frac{z + 2i}{z - 2i} \right| = 4$$

Describe the above locus in the complex plane

 **Solution:**