



III BRAC University

Department of Mathematics and Natural Sciences

Total Points: 15

Assignment-01

Course Code: MAT215

Complex

Name: @Name@

Student ID: @ID@

Section: @Section@

Semester: FALL 2025

Submission Date: _____

Assigned by

Partho Sutra Dhor
Lecturer, Department of MNS
BRAC University

Question 1

Find all possible values of z such that

$$z^n = 1$$

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

@graph_equation@

Describe the above locus in the complex plane.

 Solution:

? Question 3

Consider the inequality

$$@graph_i{nequality@}$$

Describe the above locus in the complex plane.

 Solution:

Question 4

Solve the following equation for z :

$$e^{\alpha z} = \beta$$

Express z as $x + iy$ where $x, y \in \mathbb{R}$.

 **Solution:**

?

 Question 5

Prove that

@*Q5_expression*@

 Solution:

? Question 6

Solve for z :

@Q6_expression@

 Solution: