

## MATH 206, HW#2

- i. Due Date: February 27, 2004 (No tutorial on this day!)
- ii. Submit your homework by 17.30 at EB 218 at the mailbox of Dr. Özgüler
- iii. You can get help on MATLAB from the course assistants O. Bakır and G. Memiş via email or at their office hours.

1. Sketch the set of points determined by the given condition using MATLAB:

(a)  $|z + i| = 1$ ,

(b)  $z^2 = 3$ .

2. Find the principal argument  $\text{Arg}z$  of

(a)  $\frac{-2}{1 + i\sqrt{3}}$ ,

(b)  $\frac{i}{-2 - 2i}$ ,

(c)  $(\sqrt{3} - i)^6$

in radians using MATLAB.

3. Solve the equation  $z^3 - z^2 + 2 = 0$  using the "solve" function of MATLAB and verify your findings using MATLAB.

4. Write a MATLAB function to find all roots for

(a)  $(-16)^{\frac{1}{4}}$ ,

(b)  $(8i)^{\frac{1}{5}}$

and verify your findings using MATLAB.