MATLAB:

Computer LAB for Linear Algebra   Dr. Daddel

MATH 22AL   LAB # 10

19   Exercise:

1. Let $c1 = 3 + 7i$, $c2 = 2 - i$, $c3 = 5$ and $c4 = -9i$

Compute the following. Please note that what you need to type maybe different from what is asked in normal written form.

For example to find c1c3 you need to type c1*c2

a.) c1 + c2	b.) c1c3
c.) c1 - c3	d.) $\frac{c1}{c2}$
e.) $\overline{\left(\frac{c1}{c2}\right)}$	f.) $\overline{\left(5c2 - 3c1\right)}$
g.) $\overline{c2}(3c1)$	h.) $\frac{\overline{c2}}{3c1}$
i.) $\overline{\left(\frac{c2-ic3}{c4+3c1}\right)}$	

vspace .2cm

2.   You may enter a polynomial $p(x) = 6x^3 + 3x^2 - 5x + 7$ as

type	$p = \begin{bmatrix} 6 & 3 & -5 & 7 \end{bmatrix}$	

to find the roots of p(x) you can type

type	`roots(p)`	

For the following polynomials, find all roots of $p(x) = 0$

i.) $x^2 + 5x - 20 = 0$	ii.) $7x^2 + 5x + 20 = 0$
iii.) $x^2 + 20 = 0$	iv.) $x^5 + 1 = 0$
v.) $x^4 - 1 = 0$	vi.) $x^5 - 1 = 0$
vii.) $x^5 + 6x^4 - 9x^3 - 2x^2 + x - 1 = 0$	