MATLAB: University of California, Davis

Computer LAB for Linear Algebra Dr. Daddel

MATH 22AL LAB # 10

7 Entering complex number in MATLAB:

type	`c3 = -1+ 4i`
type	`c4 = -2 -3i`
type	`c5 = 5`
type	`c6 = 2i`

Finding magnitude and argument of a given complex number.

type	`a3 = angle(c3)`
type	`r3 = abs(c3)`
type	`a4 = angle(c4)`
type	`r4 = abs(c4)`
type	`a5 = angle(c5)`
type	`r5 = abs(c5)`
type	`a6 = angle(c6)`
type	`r6 = abs(c6)`

Given magnitude and argument of a complex number, one can construct the rectangular form of it using the following:

type	`z= r3.*exp(i*a3)`
type	`z= r4.*exp(i*a4)`

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8 Entering complex number in MATLAB:

Exercise 1: Write the given complex number in polar form as

$$c = r(\cos\theta + i\sin\theta) = rcis(\theta)$$

a.) $c10 = -1 - i$

b.) $c11 = 7 + 2i$

c.) $c12 = 3 - i$.

Exercise 2: Write the given complex number in rectangular coordinates (recall that the angels are in radians) :

a.) $c13 = 3cis(\frac{\pi}{4}) = 3(\cos(\frac{\pi}{4}) + i\sin(\frac{\pi}{4})$

b.) $c14 = 6cis(\pi)$

c.) $c15 = 3cis(4.2)$