## EOSC 211: Some Review plus Built-In Functions, Arrays Preview

**Name 1:**

**Name 2:**

CONCEPTS:

1. Review variable assignment, structural elements of MATLAB
2. Introduce the idea of arrays (from lab)
3. Using built-in functions
4. **The code snippet below was intended to calculate the surface area of the Earth and print the answer to the screen. What is the actual output (describe the quantity in words) of the code snippet?**

**OUTPUT IS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

% radius of Earth in km \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

radius = 6371; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

area = 4\*pi\*radius\*radius; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

% radius of Moon in km \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

radius = 1739; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

area = 4\*pi\*radius\*radius \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Identify in the code snippet:**

Variable names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Functions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Special characters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Operators \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Next to each line of the code snippet write down what the line of code does.**
2. **What happens if I now type clear ?**
3. **Assume that I have the following variable,** mags**, that I have defined or loaded in MATLAB**

>> mags

mags =

4.2000

4.1000

4.1000

4.1000

4.3000

4.2000

4.4000

4.1000

4.0000

4.7000

mags is list (array) of 10 numbers

What would I type to

a) access the magnitude in the 3rd row \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) define a new variable called mags2 containing the magnitude in the last row: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Built-In Functions: Assume you have variable** mags **defined above. What is the output to the screen of the following command? Write down in words the steps involved in getting the output.**

y3 = max(mags(3:8))

**Output is:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What were the steps**

**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**