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

A. 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
```

_____
_____
_____
_____
_____
_____

B. Identify in the code snippet:

Variable names _____

Functions _____

Special characters _____

Operators _____

C. Next to each line of the code snippet write down what the line of code does.

D. What happens if I now type `clear` ?

E. 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: _____

F. 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. _____