**Student Name: Nazra Amin**

## Lab Section No.: 30

**Class Number: 1300**

**Major (BME, CEE, CS, ECE, EMSE, MAE, Undecided, Others): CS**

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**Please complete this sheet, print it and use it as your cover sheet.**

### SEAS-001 – Lab Assignment and HW #3

# Problem 1. 10 points \_\_\_\_\_\_\_\_\_\_

# Problem 2. 10 points \_\_\_\_\_\_\_\_\_\_

# Problem 3. 10 points \_\_\_\_\_\_\_\_\_\_

# Total: 30 points Grade:\_\_\_\_\_\_\_\_\_

# Matlab Exercises

**HW#3**

###### SEAS-001

* **Solve all given problems by creating a Matlab m-file for each problem.**
* **For each problem, give a separate page showing the m-file and Matlab solution**
* **On each page, print problem number, your name and your class number.**
* **You MUST turn it in the beginning of the next lab; this is absolutely your last chance to turn in your work**.

1)

Code:  
x = 0:.25:4;

f1 = (1./(((x-0.3).^2)+.1)) + (1./(((x-0.9).^2)+.01)) - 6;

m = min(f1)

n = max(f1)

Answer:  
m = -5.8235  
n = 45.6949

Code:  
x = 0:.25:4;  
f1 = (1./(((x-0.3).^2)+.1)) + (1./(((x-0.9).^2)+.01)) - 6;  
plot(x,f1);

Graph:



2)

Code:  
N = -10:1:10;

f2 = ((1./(1+N.^2)) - ((2.\*N)./((1+N.^2).^2)));

m = min(f2)

n = max(f2)

Answer:  
m = 0  
n = 1

Code:  
N = -10:1:10;

f2 = ((1./(1+N.^2)) - ((2.\*N)./((1+N.^2).^2)));

plot(N,f2)

Graph:  


3)  
Code:  
M = -2:.25:2;  
f3 = ((-1)./3).\*M.^2 + (2.\*(.5 - (1./3).\*M).\*M);  
m = min(f3)  
n= max(f3)

Answer:  
m = -6.0000  
n = 0.2500

Code:  
M = -2:.25:2;  
f3 = ((-1)./3).\*M.^2 + (2.\*(.5 - (1./3).\*M).\*M);  
plot(M,f3)  
  
Graph:  
