

ENCP 100 WS2020

Assignment 01

ZEESHAN HOODA

01/16/20 and 2:00 P.M.

ANSWERS FOR QUESTION 1:

Question	Expression Value
a	2.1375
b	1.1007
c	19.9152
d	2.0871
e	3.4711e+03
f	-0.0814
g	1.6841
h	0.1226
i	1.2620
j	5.7222

MATLAB CODE FOR QUESTION 1:

```
clear all; clc; close all;

a = ( 5 / ( 1 + (3/5))) ^ ( 2 / 3)
b = ( 2.2 ) ^ (1/2) + 5^2*(-1.53E-2)
c = log10(4) + log(8) + log(8) + exp(exp(1))
d = sqrt(abs(-2)) * nthroot(7, 5)
e = (7/2)^3 * 3^4 - (1.8 - ((3^2)/(9^3 + 1)))
f = (1.5 * 2^2 - sqrt(212)) / (10^2 + 5.1)
g = (1.4 + 1.3^3.2) / (exp(1.2) - log10(13))
h = sin(pi/3)*(cos(pi/2))^2 + (cos((pi/3)*log(2)) / (abs(-5) + 1.1))
i = sind(35)^2 + cosd(195)^2
j = ( ( 3 + 5 ) + (2/9) - (5/2) )
```

ANSWERS FOR QUESTION 2:

Variable	Expression Value
y	-13.4632
var	40.7558
z	-0.6907

MATLAB CODE FOR QUESTION 2:

```
clear all; clc; close all;

a = 2;
b = -5.5;
c = 8;
d = c / a;

y = ((a-b)/(c-a)^2/3) - (c-d)^2 + pi^2 * a^-2

var = a - (b/c)/(d-c) + (2*(2*a - b)^2)/(sqrt(abs(c*a - b)))

z = ((a + b + c + d)/(a - b - c - d)) * ((2*a + 3*b - 4*c ...
+ 5*d)/(5*a*b - c - d))
```

ANSWERS FOR QUESTION 3:

Variable	Value
A	15
B	6
C	-11
D	10
E	0
F	2.5000

MATLAB CODE FOR QUESTION 3

```
clear all; clc; close all;
```

```
A = ceil(14.3)
B = floor(6.6)
C = floor(-10.2)
D = round(10.4)
E = mod(12, 3)
F = mod(32.5, 6)
```

ANSWERS FOR QUESTION 4:

Variable	Expression Value
A	-3.0000
B	1.0999
C	-1
D	-0.7251
E	3.6082e-16
F	0
G	0.3877
H	-6.6549e+48
I	7.0000
J	2.0211

MATLAB CODE FOR QUESTION 3

```
clear all; clc; close all;

% converting all values in degrees to radians for ease of use later
theta = deg2rad(30);
phi = deg2rad(45);
delta = pi/2;
alpha = pi/5;
x = 0.5;

A = 3*sin(theta)^2 - 5*cos(theta)^2
B = sin(theta + phi) - 2*sin(theta)*cos(theta) + 2*cos(phi)*sin(phi)
C = sin(3*delta) - 3*sin(alpha)*cos(delta)
D = tan(theta - phi) - tan(phi)*cos(phi) + sin(theta)*sin(theta)
E = cos(4 * theta) + cos(theta)^4 - sin(theta)^4
F = tan(delta) - sin(delta)/cos(delta)
G = asin(x)*acos(x)*(sqrt(1 - x))
H = 1 - (tan(delta)^3)*(sec(alpha)^2)
I = 1 + (cot(theta)^2)*csc(theta)
J = sinh(x) + 3*(1/2)*(2*x - 10^-5)
```