ENCP 100 WS2020

Assignment 01

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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)