**ENGR133\_Fa21\_MA1\_Answersheet**

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Name:** | Maximilian Drach | **Your login:** | mdrach |
| **Your Section:** | LC5 | | |

|  |
| --- |
| **Task 6:** *MATLAB as a Calculator* |

**Part A:** Use MATLAB to calculate the value of each expression. Copy the command from MATLAB into the second column of the table below and the result from MATLAB into the third column.

|  |  |  |
| --- | --- | --- |
| **Expression** | **MATLAB command** | **MATLAB result** |
|  | ((2+7)^3)+((273^(2/3))/2)+((55^2)/3) | ans =  1.7584e+03 |
|  | (2^3)+(7^3)+((273^2)/2)+(55^(2/3)) | ans =  3.7630e+04 |
|  | abs(1-(.4\*atan(pi/6))) | ans =  0.8071 |

**Part B:** Define the variables x and z as x = 9.6 and z = 8.1. Use MATLAB to calculate the value of each expression. Copy the command from MATLAB into the second column of the table below and the result from MATLAB into the third column.

|  |  |  |
| --- | --- | --- |
| **Expression** | **MATLAB command** | **MATLAB result** |
|  | a = (x\*(z^2))-(((2\*z)/(3\*x))^(3/5)) | a =  629.1479 |
|  | b = ((443\*z)/(2\*(x^3)))+((exp(-x\*z))/(x+z)) | b =  2.0279 |
|  | c = log(z) | c =  2.0919 |
|  | d = log10(z) | d =  0.9085 |

|  |
| --- |
| **Task 7:** *Matrix Manipulations* |

**Part B:** Complete the table below.

|  |  |
| --- | --- |
| **Function** | **MATLAB Command** |
| Create a **Bmatrix** by replacing the middle row of **Amatrix** with the **Bvector**. | >> Amatrix = [2 5 8 5;10 9 1 4;6 3 2 10]  >> Bmatrix = Amatrix  >> Bmatrix(2,:) = Bvector; |
| Create the **Gvector** by extracting the third row in **Amatrix**. | >> Gvector = Amatrix(3,:) |
| Extract row 2, column 3 from **Amatrix** | >>Amatrix(2,3) |
| Replace the value 2 in **Amatrix** (row 1 and column 1) with the value 55. | >>Amatrix(1,1)=55 |