

Matlab Individual Assignment #1 (Part A)

Section #: _____ Name: _____ UIN: _____

1. Define the variables a and b as $a = -18.2$ and $b = 6.42$, then evaluate the following:

(a) $1.5a - \frac{ab + b^2}{a} + 16a$

(b) $\ln \left[\left(\frac{a}{b} - 1.5a \right) (b - a) \right] + \frac{2.5ab + b^2 + a}{-0.5ab - b^2 - a}$

2. The distance d from a point (x_0, y_0) to a line $Ax + By + C = 0$ is given by $d = \frac{|Ax_0 + By_0 + C|}{\sqrt{A^2 + B^2}}$. Determine the distance from the point $(3, -4)$ to the line $2x - 7y - 10 = 0$. First define the variables A , B , C , x_0 , and y_0 , then calculate d .

3. Create the matrix below by using colon notation and/or the **linspace** command to create each row:

$$B = \begin{bmatrix} 0 & 4 & 8 & 12 & 16 & 20 & 24 & 28 \\ 69 & 68 & 67 & 66 & 65 & 64 & 63 & 62 \\ 1.4 & 1.1 & 0.8 & 0.5 & 0.2 & -0.1 & -0.4 & -0.7 \end{bmatrix}$$