**SECTION 3**

1. Inverse of Matrix

***Matlab Code:***

X= [1 3 -1; 0 1 2; -1 0 8]; %input matrix

Y=inv(X); %finding inverse matrix

***Output:***

Y= [8.000000000000007 -24.000000000000020 7.000000000000007

-2.000000000000001 7.000000000000005 -2.000000000000001

1.000000000000001 -3.000000000000003 1.000000000000001]

2. System of Linear Equation:

***Matlab Code:***

A = [-1 -5 3; -2 -7 0; -1 -4 1]; %input

syms x y z; %variables

B=[4 ;5 ;3];

X=inv(A)\*B;

***Output:***

X is infinite.

Since the given 3\*3 matrix is singular. (i.e., the system has infinitely many solutions)