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MECHATRONICS ENGINEERING
16/ENG05/003

200L Q1

```
commandwindow clear  
clc
```

Q2

```
commandwindow clear  
clc
```

```
A = [2,3,7,9,4;  
3,7,9,12,5;  
4,8,5,6,9;  
5,9,2,4,5;  
6,2,3,7,8];
```

```
D = det(A) %finding the determinant
```

```
T = A' %finding the transpose
```

```
I = inv(A) %this is the inverse format rat % converting to fraction I %displaying  
the inverse in fractional form
```

The screenshot shows the MATLAB R2017a interface. The Command Window displays the following results:

```
T =  
  
     2     3     4     5     6  
     3     7     8     9     2  
     7     9     5     2     3  
     9    12     6     4     7  
     4     5     9     5     8  
  
I =  
  
     1.8915    -1.4026    -0.3124     0.7843    -0.2078  
    -0.4379     0.3268     0.0523    -0.0392    -0.0196  
     2.5725    -1.8392    -0.0863     0.7647    -0.5176  
    -1.8876     1.4654     0.0105    -0.6078     0.3961  
    -0.6222     0.3778     0.2444    -0.3333     0.1333  
  
I =  
  
    1447/765    -1073/765    -239/765     40/51     -53/255  
    -67/153      50/153      8/153      -2/51      -1/51  
     656/255    -469/255    -22/255     13/17     -44/85  
   -1444/765    1121/765      8/765     -31/51    101/255  
    -28/45      17/45      11/45      -1/3      2/15
```

The Workspace window on the left shows variables A, D, I, and T. The Command Window also shows the prompt `>>` at the bottom.

Q3

```
commandwindow clear
clc
A = [0,10,4,-2;
-3,-17,1,2;
1,1,1,0;
8,-34,16,-10];
B = [-4;2;6;4];
C = inv(A);
D = C * B
```

