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16/ENG06/006
MECHANICAL ENGINEERING

1.
commandwindow
clear
clc

2.
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]
B=det (A)
C=transpose (A)
D=inv (A)
E=rats(D)

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

B =

-765.0000

C =

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

D =

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

E =

5×70 char array

'	401/212	-108/77	-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	'			
'	-319/169	148/101	3/287	-31/51
101/255	'			
'	-28/45	17/45	11/45	-1/3
2/15	'			

>>

3.

```
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]
X=inv (A)*B
```

A =

0	10	4	-2
-3	-17	1	2
1	1	1	0
8	-34	16	-10

B =

-4

2

6

4

X =

4.0000

-0.0000

2.0000

6.0000

>>