

>> SteamPlant = [ 27.6 30.2 162; 3100 6400 23610; 250 360 1623]

## SteamPlant =

1.0e+04 \*

 $0.002760000000000 \quad 0.003020000000000 \quad 0.016200000000000$ 

 $0.310000000000000 \quad 0.64000000000000 \quad 2.36100000000000$ 

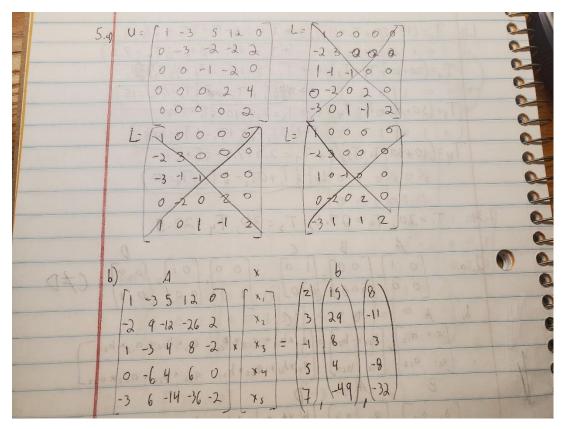
 $0.025000000000000 \quad 0.03600000000000 \quad 0.162300000000000$ 

>> Y=rref(SteamPlant)

Y =

- 1.00000000000000 0 3.9000000000000
  - $0 \quad 1.00000000000000 \quad 1.800000000000000$
  - 0 0 0

## 5. a) (wasn't able to find an L that satisfied A=LU)



b)

>> A=load('ps1\_data.txt')

A =

1 -3 5 12 0

-2 9 -12 -26 2

1 -3 4 8 -2

0 -6 4 6 0

-3 6 -14 -36 -2

>> b1=[2; 3; -1; 5; 7]

b1 =

2

```
3
 -1
  5
  7
>> b2=[15; 29; 8; 4; -49]
b2 =
 15
  29
  8
  4
 -49
>> b3=[8; -11; 3; -8; -32]
b3 =
  8
 -11
  3
 -8
 -32
>> A1=rref([A b1])
A1 =
 1.0000
         0
                 0
                      0
                         0 19.0000
    0 1.0000
                 0
                           0 -18.6667
         0 1.0000
                      0
                           0 -47.0000
    0
         0
              0 1.0000
                           0 13.5000
    0
       0
                    0 1.0000 -2.0000
              0
>> x1=A1(:, 6)
x1 =
 19.0000
-18.6667
-47.0000
```

13.5000

```
-2.0000
>> A2=rref([A b2])
A2 =
                        0 175.0000
 1.0000
    0 1.0000
                        0 -37.6667
                0
        0 1.0000
                        0 -57.0000
                          0 1.0000
              0 1.0000
                   0 1.0000 30.0000
        0
>> x2=A2(:, 6)
x2 =
175.0000
-37.6667
-57.0000
 1.0000
 30.0000
>> A3=rref([A b3])
x3 =
  0 0 0 1 0 1
  0 0 0 0 1 0
```

