Review

Problem 1: Input a 3x4 matrix of your choice, display it in nice matrix form, then RREF it and display the reduced form nicely. See Mathematica Homework 2 for help.

Problem 2: Using your 3x4 matrix from above, pick off the 1st column, the 2nd row, and the 3-4 entry. Again, see Mathematica Homework 2 for help.

In[28]:=
```
A={{1,8,9,2},{5,3,8,7},{3,6,1,4}}
MatrixForm[A]
MatrixForm[RowReduce[A]]
```

Out[28]=
```
{{1, 8, 9, 2}, {5, 3, 8, 7}, {3, 6, 1, 4}}
```

Out[29]//MatrixForm=

$$\begin{pmatrix} 1 & 8 & 9 & 2 \\ 5 & 3 & 8 & 7 \\ 3 & 6 & 1 & 4 \end{pmatrix}$$

Out[30]//MatrixForm=

$$\begin{pmatrix} 1 & 0 & 0 & \frac{95}{74} \\ 0 & 1 & 0 & \frac{1}{74} \\ 0 & 0 & 1 & \frac{5}{74} \end{pmatrix}$$

In[31]:=
```
A[[All,1]]
A[[2,All]]
A[[3,4]]
```

Out[31]=
```
{1, 5, 3}
```

Out[32]=
```
{5, 3, 8, 7}
```

Out[33]=
```
4
```

Solve: Equations may not give solutions for all "solve" variables.

Exercises

1. Do Problems 1-2 above.

2. Let A be the matrix: {{0,0,2,2,4},{0,1,2,4,8},{1,2,1,2,1},{1,2,4,5,7}}

In[53]:=
```
A={{0,0,2,2,4},{0,1,2,4,8},{1,2,1,2,1},{1,2,4,5,7}}
u={0,0,0,0}
v={1,1,1,1}
```

Out[53]=
```
{{0, 0, 2, 2, 4}, {0, 1, 2, 4, 8}, {1, 2, 1, 2, 1}, {1, 2, 4, 5, 7}}
```

Out[54]=
```
{0, 0, 0, 0}
```

Out[55]=
```
{1, 1, 1, 1}
```

2.1. Input the matrix and name it A.

2.2. Input the vectors u=[0,0,0,0] and v=[1,1,1,1].

2.3. Append vector u to A as a column vector and call the new matrix Au. Do the same for v, calling the appended matrix Av.