Handout 1 - The Old Switcheroo and Who's Who in the Matrix

1. Express $3x - 2y = 5$ and $-x + 4y = 1$ using matrices.

2. Express these as equations: $\begin{bmatrix} x & -y \\ 3x & 4y \end{bmatrix} \begin{bmatrix} -6 \\ 2 \end{bmatrix}$

3. In this matrix $\begin{bmatrix} 3 & -5 & 1 \\ -2 & 0 & 4 \end{bmatrix}$ what is in row one?

4. In this matrix $\begin{bmatrix} 3 & -5 & 1 \\ -2 & 0 & 4 \end{bmatrix}$ what is in column two?

5. In this matrix $\begin{bmatrix} 3 & -5 & 1 \\ -2 & 0 & 4 \end{bmatrix}$ which enty is -5?

6. In this matrix $\begin{bmatrix} 3 & -5 & 1 \\ -2 & 0 & 4 \end{bmatrix}$, what is e_{23}?

7. In this matrix $\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$, what is e_{23}?

8. Express $2x-2y+3z = 5$, $3x+4y+z = 8$ and $-4x - 2y - 2z = 8$ using matrices.

9. Express these matrices as equations: $\begin{bmatrix} x & 2y & 5z \\ -5x & -3y & -z \\ -4x & 4y & -2z \end{bmatrix} = \begin{bmatrix} 6 \\ 9 \\ 8 \end{bmatrix}$

10. What is the formula for location of entries?
