

Reduced Echelon Form Practice

January 23, 2018

For each matrix (a) write down the linear system it could represent, (b) put the matrix in reduced echelon form, and (c) determine if the linear system has a solution and if so, what is it.

$$1. \begin{pmatrix} 1 & 1 & 0 & 1 & 2 \\ -1 & 0 & 3 & 5 & 8 \\ 0 & 2 & 4 & 6 & 1 \\ 0 & -1 & -4 & 1 & 2 \end{pmatrix}$$

$$2. \begin{pmatrix} 1 & 2 & 4 & 2 \\ -1 & 5 & 1 & 0 \\ 2 & 1 & 1 & 4 \end{pmatrix}$$

$$3. \begin{pmatrix} 1 & 3 & 4 & 0 \\ 2 & 0 & 8 & 2 \\ -4 & 0 & 1 & 6 \end{pmatrix}$$

$$4. \begin{pmatrix} 1 & 6 & 3 \\ 2 & 1 & 2 \\ 3 & 2 & 9 \\ 4 & 4 & 0 \end{pmatrix}$$

$$5. \begin{pmatrix} 2 & 8 & 5 & -6 \\ 0 & 3 & 1 & 4 \\ 6 & 0 & -2 & 3 \end{pmatrix}$$

$$6. \begin{pmatrix} 1 & 0 & 3 & 5 \\ 4 & 1 & 2 & 3 \\ 0 & 5 & 3 & 2 \end{pmatrix}$$

$$7. \begin{pmatrix} 1 & 2 & 0 & 4 \\ 2 & 3 & -8 & 0 \\ 3 & 0 & 0 & 10 \end{pmatrix}$$

$$8. \begin{pmatrix} 1 & 3 & 2 & 0 \\ 2 & 3 & 4 & -1 \\ 0 & 1 & -8 & -2 \end{pmatrix}$$

$$9. \begin{pmatrix} 1 & 5 & -2 & 3 & 7 \\ 0 & 2 & 2 & 8 & 0 \\ 5 & 7 & 8 & -1 & -9 \end{pmatrix}$$

$$10. \begin{pmatrix} 2 & 1 & 7 & 6 \\ 4 & 3 & 1 & 3 \\ 7 & 4 & 5 & 2 \\ 1 & 9 & 2 & 3 \end{pmatrix}$$

$$11. \begin{pmatrix} 4 & 0 & 8 & 0 & 32 \\ -1 & 2 & 4 & -2 & 0 \\ 1 & 1 & 1 & 1 & 12 \\ 0 & 3 & 0 & -4 & -7 \end{pmatrix}$$

$$12. \begin{pmatrix} 2 & -5 & 7 \\ 4 & 0 & 3 \\ 4 & 1 & 8 \end{pmatrix}$$