



- \*15 questions
- \*Calculators allowed
- \*Show all work/steps- use separate paper
- \*Recommend time frame 45min -60min

### Concept of Systems

1. *True or False? Linear systems only have one equation.*
2. *Define the solution to a linear system in your own words.*
3. *Name three methods to solve a linear system.*
4. *Given any linear system- what could be the possible solutions? (hint: 3 types)*
5. *Give one example of a real-life situation that can be described as a system.*

### Solving Systems

6. *Determine if  $(2, -3)$  is a solution to the system:  $\begin{cases} 3x + 2y = 8 \\ 6x - 9y = 10 \end{cases}$*
7. *Solve by graphing( graph paper needed):  $\begin{cases} -2x + 2y = 0 \\ x + y = -8 \end{cases}$*
8. *Solve using the Substitution Method:  $\begin{cases} -x + y = 2 \\ y = 3x \end{cases}$*
9. *Solve using the Substitution Method:  $\begin{cases} -6x - 2y = 2 \\ 4x + y = 1 \end{cases}$*

10. Solve using the Elimination/Linear Combination Method:  $\begin{cases} -2x + 2y = 6 \\ 3x - y = 3 \end{cases}$

11. Solve using the Elimination/Linear Combination Method:  $\begin{cases} 2x + 4y = 14 \\ 3x - y = 14 \end{cases}$

12. Solve the system by any method:  $\begin{cases} 8x - y = -1 \\ -10x + 2y = 5 \end{cases}$

13. Would you consider information in a spreadsheet (ex. Microsoft Excel) a matrix? explain

*Simplify the following matrix expressions:*

14.  $2 \begin{bmatrix} 3 & 0 \\ 1 & 5 \end{bmatrix} + \begin{bmatrix} 7 & -2 \\ 4 & -9 \end{bmatrix}$

15.  $\begin{bmatrix} 6 & -2 \\ 2 & 11 \end{bmatrix} - \begin{bmatrix} 1 & -19 \\ 0 & 23 \end{bmatrix}$