Grima MAT 151 Chapter 8 test with hypothetical point values
Each problem worth 10 points, unless marked differently

1) Solve each system of equations using either the substitution method or the elimination method, 0 points if no work is shown even if answer is correct.

$5x - 3y = 1$
$x = 6y - 16$

2) Solve each system of equations using either the substitution method or the elimination method, 0 points if no work is shown even if answer is correct.

$3x + 2y = 14$
$4x - 6y = -16$

3) Solve each system of equations, by hand **without matrices**, 0 points if no work is shown even if answer is correct. (NO matrices for this solution, an answer with no work will get -10 points)

Hint: pair the middle equation with the other two and drop out the x's

$x + 2y - 3z = 1$

$-2x + 3y + z = -5$

$x - 2y + 3z = 9$

4) Solve the system of equations using matrices and row operations. 0 points if no matrix work is shown even if answer is correct.

$x + 2y = 14$
$-3x + 3y = 3$

5) Use the Matrices defined below to find: $3B + 2D$

$B = \begin{bmatrix} 4 & 5 \\ 1 & 2 \end{bmatrix}$
$D = \begin{bmatrix} 3 & 2 \\ 5 & -1 \end{bmatrix}$

6) Use the Matrices defined below to find: DB

$B = \begin{bmatrix} 4 & 5 \\ 1 & 2 \end{bmatrix}$
$D = \begin{bmatrix} 3 & 2 \\ 5 & -1 \end{bmatrix}$

7) Solve the system of equations using Cramer's rule,   0 points if solved with another method, even if answer is correct (2 points each, 10 total points)

$2x + 3y = 9$

$5x - 3y = 12$ $D =$ _____ $D_x =$ _____ $D_y =$ _____

$x =$ _____ $y =$ _____

8) Solve the system of equations.

$x + y = 12$
$y^2 + x = 18$

9) Solve the system of equations.
$x + y = 5$
$x^2 + y = 11$

10) Label the x and y-intercepts then sketch a graph of the inequality (Make sure to shade in the correct direction.) (5 points)

$6x + 3y \leq 18$

11) Label the x and y-intercepts then sketch a graph of the inequality (Make sure to shade in the correct direction.) (5 points)

$3x + 2y > 6$