

# Algebra 3 Review Worksheet

## A. Solve using Cramer's Rule

1.  $4x - 3y = -6$       2.  $x + 3y = -6$   
 $x + 2y = -7$        $2x - 5y = 7$

Answers:

1.  $(-3, -2)$   
2.  $\left(\frac{-9}{11}, \frac{-19}{11}\right)$

## B. Solve using any method

3.  $2x + y - z = -8$       4.  $2x - y + 2z = 15$   
 $4x - y + 2z = -3$        $-x + y + z = 3$   
 $-3x + y + 2z = 5$        $3x - y + 2z = 18$

3.  $(-2, -3, 1)$   
4.  $(3, 1, 5)$

## C. Solve using row equivalent matrices (the way you hate)

5.  $x - 3y + 2z = 5$       6.  $x + y = 3$       7.  $3x - 2y + 4z = 15$   
 $3x - 2y - 3z = 4$        $-y + z = 3$        $x - y + z = 3$   
 $2x + 5y - z = 11$        $x + 2z = 10$        $x + 4y - 5z = 0$

5.  $(4, 1, 2)$   
6.  $(2, 1, 4)$   
7.  $(3, 3, 3)$

## D. Find the value of each determinant

8.  $\begin{vmatrix} 4 & 6 & 2 \\ -2 & 3 & 7 \\ 9 & 8 & -1 \end{vmatrix}$       9.  $\begin{vmatrix} 1 & 0 & 4 \\ 1 & -3 & 0 \\ 0 & 1 & 1 \end{vmatrix}$

8. 44  
9. 1

## E. Solve using Cramer's Rule

10.  $x - 3y + 4z = 7$       11.  $x + 5y - 2z = 3$       12.  $2x + 3y + 4z = 2$   
 $3x + 4y + z = 7$        $3x + 7y + 3z = -1$        $5x - 2y + 3z = 0$   
 $2x + 7y - 4z = 2$        $4x - 2y + 5z = 8$        $x - 5y - 2z = -4$

10.  $\left(\frac{87}{13}, \frac{-36}{13}, -2\right)$   
11.  $(4, -1, -2)$   
12.  $(2, 2, -2)$