

## Algebra 3 Assignment # 4

Evaluate:

$$(1) \begin{vmatrix} 1 & 1 & 1 \\ -1 & 1 & 1 \\ -1 & -1 & 1 \end{vmatrix}$$

$$(2) \begin{vmatrix} -1 & x & -1 \\ x & -3 & 0 \\ -3 & 5 & -1 \end{vmatrix} = 0$$

$$(3) \begin{vmatrix} 1 & -3 & 2 \\ -5 & 2 & 0 \\ 4 & -1 & 3 \end{vmatrix}$$

Solve using Cramer's Rule:

$$(4) \begin{aligned} x + 2y + 3z &= 5 \\ 3x - y &= -3 \\ -4x + z &= 6 \end{aligned}$$

$$(5) \begin{aligned} 2x + y &= 5 \\ 3x - 2z &= -7 \\ -3y + 8z &= -5 \end{aligned}$$

Answers:

1. 4

2.  $x = 2, 3$

3. -45

4.  $x = -1; y = 0; z = 2$

5.  $x = -1; y = 7; z = 2$