Keeper #5: Solving Equations w/ Matrices

A = $\left[\begin{matrix}5&2\\1&0\end{matrix}\right]$ B = $\left[\begin{matrix}1&-1&2\\5&1&-2\\0&-3&-4\end{matrix}\right]$

1. $\left|B\right|$ 2. $\left|A\right|$

 3. $A^{-1}$ 4. $B^{-1}$

Augmented Matrices

A \_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_ written in \_\_\_\_\_\_\_\_\_\_\_\_ form using coefficients of variables.

1. **Write the coefficients of the *x*-terms as the numbers down the first column.**

**2. Write the coefficients of the *y*-terms as the numbers down the second column.**

**3. If there are *z*-terms, write the coefficients as the numbers down the third column.**

**4. Draw a vertical line and write the constants to the right of the line.**

Ex. 1 set up into augmented matrix **How to solve:**

$$3x-2y=14$$

$$x+3y=1$$

Ex. 2 solve for x and y Ex. 3 solve for x and y

$y-2x= -3$ $3x-6y=-9$

$x-4y= -2$ $-2y-2x=12$

Ex. 4 solve for x, y, and z

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

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

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