Get a graphing calculator.

Bell Work

1. $X + Y =$
2. $XY =$
3. $YX =$

$$X = \begin{bmatrix} 2 & -5 \\ 3 & 0 \end{bmatrix} \qquad Y = \begin{bmatrix} -7 & 3 \\ 2 & -4 \end{bmatrix}$$

4. Solve the system of equations using inverse matrices.

$$4x - 9y = 42$$

$$11x + 5y = 56$$

Find the determinant of each matrix.

$$A = \begin{bmatrix} 4 & 8 \\ -7 & -6 \end{bmatrix}$$

$$4(-6) - -7(8) =$$

$$-24 + 56 =$$

$$32$$

1. Cross multiply.
2. Determinant = Down - Up

$$B = \begin{bmatrix} 3 & -9 \\ 5 & 4 \end{bmatrix}$$

$$3(4) - 5(-9) =$$

$$12 + 45 =$$

$$57$$

Find the determinant of each matrix.

$$C = \begin{bmatrix} 5 & 10 \\ 6 & -9 \end{bmatrix}$$

$$5(-9) - 6(10) =$$

$$-45 - 60 =$$

$$-105$$

There are many ways to write the determinant of C.

$$\text{determinant of } C = \det C = |C| = \begin{vmatrix} 5 & 10 \\ 6 & -9 \end{vmatrix}$$

Find the determinant of each matrix.

$$D = \begin{bmatrix} 4 & 6 & -3 \\ 0 & 11 & 2 \\ -9 & -5 & 8 \end{bmatrix}$$

The graphing calculator can do the determinant.

1. Type the matrix in.
2. 2^{nd} Matrix MATH det(
3. The matrix

$$\det D = -13$$

Assignment:

Determinants and Cramer's Rule Worksheet

Just Problems #1 – 3