HAT
Solving Systems with Inverse Matrices

9/13/17

WarmUp:

Find your assigned entry

$$\begin{bmatrix} -\frac{2}{3} & -\frac{1}{3} & \frac{1}{3} \\ -\frac{13}{18} & -\frac{11}{18} & -\frac{1}{18} \\ \frac{7}{18} & -\frac{1}{18} & -\frac{5}{18} \end{bmatrix} \cdot \begin{bmatrix} 3 & -2 & 4 \\ -4 & 1 & -5 \\ 5 & -3 & 3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$-\frac{2}{3}(3) + -\frac{1}{3}(-4) + \frac{1}{3}(5)$

$-2 + 4/3 + 5/3$

$+ 3$

These problems are from the 9/6/17 handout on
Solving Systems of Linear Equations.
At the time, we solved using ELIMINATION.

1) $3x - 2y + 4z = 35$
$-4x + y - 5z = -36$
$5x - 3y + 3z = 31$

2) $4x - 3y + 6z = 18$

$-x + 5y + 4z = 48$

$6x - 2y + 5z = 0$

3)

$$-6x+9y-12z=21$$

$$-2x+3y-4z=7$$

$$10x-15y+20z=-30$$

4)

$$5x + 4y - 5z = -10$$

$$-4x - 10y - 8z = -16$$

$$6x + 15y + 12z = 24$$

5)

$$3v - 5x + 2x + 4y + z = 35$$

$$2v + 4w - x - 3y + 6z = -16$$

$$4v - 2w - 3x + y + 2z = 18$$

$$-5v + w + 4x - y - 3z = -18$$

$$-2v + 5w + 6x - 2y + z = -19$$

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

Calculator Competencies:

Enter a Matrix
Find an Inverse Matrix
Find a Determinant
Solve a System Using the Inverse Matrix

Homework: TI-Nspire Investigation

and....

Chapter 3 TEST is Friday...
Look through these problems.
Got it... skip it.
Not sure... do it!

3.1 Solving Systems of Equations
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3.2 Solving Systems of Inequalities
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3.3 Linear Programming
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3.4 Systems of Equation in Three Variables
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3.5 Operations with Matrices
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3.6 Multiplying Matrices
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3.8 Solving Systems Using Inverse Matrices
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