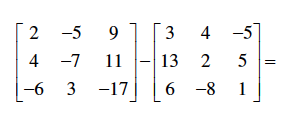
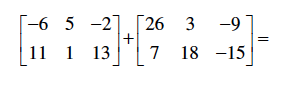
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| .http://mathbits.com/MathBits/TISection/PreCalculus/logoPrecalculus.gif   |  | | --- | | **Working with Matrices** |  |  |  |  |  | | --- | --- | --- | --- | | |  | | --- | | Matrices are rectangular arrays of elements.   The ***dimension*** of a matrix is the number of rows by the number of columns. | | | | | **Adding/ Subracting Matrices** - matrices must be of the ***same dimension*** to be added/ subtracted.  **Add:  http://mathbits.com/MathBits/TISection/PreCalculus/matric1.gif**  **First Enter the Matrices (one at a time):** | | | | **Step 1:**  Go to **Matrix**  (above the  **x-1**k key)  http://mathbits.com/MathBits/TISection/PreCalculus/determ2.gif | **Step 2:**  Arrow to the right to **EDIT** to allow for entering the matrix.    http://mathbits.com/MathBits/TISection/PreCalculus/determ3.gif | **Step 3:**  Type in the dimensions (size) of your matrix and enter the elements (press **ENTER).**    http://mathbits.com/MathBits/TISection/PreCalculus/matric2.gif | | **Step 4:**  Repeat this process for the second matrix  . http://mathbits.com/MathBits/TISection/PreCalculus/matric3.gif | **Step 5:** Arrow to the right to **EDIT** and choose a new name.    http://mathbits.com/MathBits/TISection/PreCalculus/matric4.gif | **Step 6:**  Type in the dimensions (size) of your matrix and enter the elements (press **ENTER).**  http://mathbits.com/MathBits/TISection/PreCalculus/matric5.gif | | **Now, add: Step 7:** Return to the home screen. Go to **Matrix** to get the names of the matrices for adding.    http://mathbits.com/MathBits/TISection/PreCalculus/matric6.gif | **The answer to the addition, as seen on the calculator screen,  is =**  http://mathbits.com/MathBits/TISection/PreCalculus/matric7.gif |  | | **Multiplying Matrices** - for multiplication to occur, the ***dimensions*** of the matrices must be related in the following manner:  ***m x n*  times  *n x r*  yields *m x r***  **Multiply: http://mathbits.com/MathBits/TISection/PreCalculus/matric8.gif**  **First Enter the Matrices (one at a time) as shown above:** | | | | **Step 1:** Once the matrices are entered, you should see their dimensions in residence when you go to **Matrix**  (above the  **x-1**key)  **http://mathbits.com/MathBits/TISection/PreCalculus/matric9.gif** | **Step 2:** Return to the home screen.  Go to **Matrix** to get the names of the matrices for multiplying.    http://mathbits.com/MathBits/TISection/PreCalculus/matric10.gif | **The product, as seen on the calculator screen,  is =**  **http://mathbits.com/MathBits/TISection/PreCalculus/matric11.gif** |     **Using Matrices to Solve Systems of Equations:** *(using Gauss-Jordan elimination method with reduced row echelon form )*  Solve this system of equations:   |  | | --- | | 2*x* - 3*y* + *z* = -5 4*x* -  *y* - 2*z* = -7 -*x* + 2*z* = -1 |  |  |  |  | | --- | --- | --- | | **Step 1:**  Line up the variables and constants       2*x* - 3*y*  + *z* = -5      4*x* -  *y*  - 2*z* = -7      -*x* +0y + 2*z* = -1 | **Step 2:**  Write as an augmented matrix and enter into calculator. (3 x 4 matrix)         http://mathbits.com/MathBits/TISection/PreCalculus/matric20.gif | **Step 3:**  From the home screen, choose the **rref** function.  [Go to  **Matrix**  (above the  **x-1**key), moveright→**MATH,** choose **B: rref]**    http://mathbits.com/MathBits/TISection/PreCalculus/matric21.gif | | **Step 4:**  Choose name of matrix and hit **ENTER**.   http://mathbits.com/MathBits/TISection/PreCalculus/matric22.gif | **Step 5:  The answer to the system, will be the last column on the calculator screen:**  ***x* = -3 *y* = -1 *z* = -2.** |  | |

Adding/ Subtracting Matrices using Graphing Calculator

1)

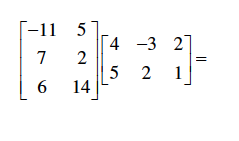


2)

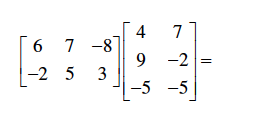


Multiplying Matrices using Graphing Calculator

3)



4)



Solving systems of Equation using Graphing Calculator

5)



6)



Pre Calculus TABLE #\_\_\_\_\_\_\_\_

Lesson 8 Graphing Calculator Activity PERIOD \_\_\_\_\_\_\_\_

|  |
| --- |
| Adding/ Subtracting Matrices using Graphing Calculator  1) 2) |
| Multiplying Matrices using Graphing Calculator  3) 4) |
| Solving Systems of Equations using Graphing Calculator  5) 6) |