

Using Mathcad for Matrix Operations:

Part I: Entering a Matrix into Mathcad:

- 1) Type in a capital letter and then hit SHIFT : (you should see $A :=$ followed by a little black box)
- 2) Click on the little black box and hit the insert matrix button (or CTRL – M)
- 3) Enter in the number of rows and columns
- 4) Click on the first entry and enter the first value. Hit TAB to cycle through the other entry boxes.

Part II: Multiplying 2 Matrices in Mathcad:

- 1) Define your matrices as in **Part I**.
- 2) In an area below your matrix definitions, enter your first matrix letter
- 3) Hit CTRL – 8 (*) for multiplication
- 4) Enter your second matrix letter
- 5) Hit = (your resultant matrix will be displayed after the =)

Part III: Finding the Inverse of a Matrix in Mathcad:

- 1) Define your matrix as in **Part I**.
- 2) In an area below your matrix definitions, enter your first matrix letter
- 3) Hit the X^{-1} button on the matrix toolbar (Can also hit SHIFT 6 (^) to enter exponent and then type –1)
- 4) Hit = (your resultant matrix will be displayed after the =)

Part IV: Finding the Transpose of a Matrix in Mathcad:

- 1) Define your matrix as in **Part I**.
- 2) In an area below your matrix definitions, enter your first matrix letter
- 3) Hit the X^T button on the matrix toolbar (Can also hit CTRL – 1)
- 4) Hit = (your resultant matrix will be displayed after the =)

Part V: Row Reducing an $n \times (n+1)$ Matrix in Mathcad:

- 1) Define your matrix as in **Part I**.
- 2) In an area below your matrix definitions, type **rref()** inserting your matrix letter between ().
- 5) Hit = (your resultant matrix will be displayed after the =)