Unit 5 – Matrices

Summative assessment

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions: Answer each question to the best of your ability. If there is no answer to the question, write DNE and give a brief justification.

1. Consider the matrices A and B, displayed below.

A B

|  |  |
| --- | --- |
| 1 | 5 |
| 2 | 3 |
|  7 | 2 |

|  |  |  |
| --- | --- | --- |
| 4 | 6 | 1 |
| 7 | 8 | 9 |

* 1. a1,2= \_\_\_\_\_\_5\_\_\_\_\_\_\_
	2. What entry in B is the number 9? b\_2\_\_,\_\_3\_\_
1. A+B= DNE
2. A\*B=

|  |  |  |
| --- | --- | --- |
| 39 | 46 | 46 |
| 29 | 36 | 29 |
| 42 | 58 | 25 |

|  |  |
| --- | --- |
| 1 | 5 |
| 2 | 3 |

|  |  |
| --- | --- |
| 6 | 1 |
| 8 | 9 |

1. Now let C= and D=

Is it true that CD=DC? Why or why not?

Not in this case. Multiplication is not necessarily commutative.

1. Find C-1, the inverse matrix of C.

|  |  |
| --- | --- |
| -.42857 | .7142857 |
| .285714 | -.142857 |

1. C\*C-1 =

|  |  |
| --- | --- |
| 1 | 0 |
| 0 | 1 |

1. Assume we have a system of equations:

X+5y=7

2x+3y=-13

 Use matrix methods to solve this system.

X=6.2857

Y=.142857

1. Build a matrix that captures the following data:

On Monday, 537 people rode the train. On Tuesday, 493 people rode the train. On Wednesday, 725 people rode the train. On Thursday, 602 people rode the train. On Friday, 200 people rode the train.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 537 | 493 | 725 | 602 | 200 |

What is this type of matrix called?

Row matrix as above. Could also be column matrix if they give the transpose above.