Math 346 Quiz 2
February 13, 2018

Name: ANSWERS

Instructions: No calculators! Answer all problems in the space provided! Do your rough work on scrap paper.

1. For the matrix $F = [f_{ij}] = \begin{pmatrix} 7 & 2 & 3 \\ 5 & 0 & -1 \\ 6 & 7 & -7 \end{pmatrix}$, what is $f_{23} =$ -1?

2. Let $A = \begin{pmatrix} 1 & 0 & 3 \\ 2 & -1 & 1 \end{pmatrix}$, $B = \begin{pmatrix} 1 & 0 & 7 \\ 1 & -1 & 5 \\ 3 & 4 & 9 \end{pmatrix}$, $C = \begin{pmatrix} 2 & 0 \\ -1 & 1 \end{pmatrix}$ and $D = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \end{pmatrix}$. Compute the following, or write "DNE", for "does not exist".

(a) $A + 2D =$ $\begin{pmatrix} 3 & 0 & 3 \\ 2 & 1 & 1 \end{pmatrix}$ (b) $B - 3A =$ undefined

3. Suppose C and D above were multiplied to find CD. Write the size of the result, or "DNE" if they actually cannot be multiplied: 2×3

Bonus:

(a) Compute $AB =$ $\begin{pmatrix} 10 & 12 & 34 \\ 4 & 5 & 18 \end{pmatrix}$

(b) Compute $BA =$ undefined

(c) What is $tr(B) =$ 9?