Name Solution Key

UNIVERSITY OF WYOMING — Math 2250—Fall 2023 — Department of Mathematics

Elementary Linear Algebra

Quiz 2

Friday, September 15, 2023

For the matrices $A = \begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 5 \end{bmatrix}$, compute

(a) $AB = \begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 2 & 3 \end{bmatrix} \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 5 \end{bmatrix} = \begin{bmatrix} 3 & 2 & 5 \\ 0 & 1 & 2 \\ 9 & 8 & 19 \end{bmatrix}$

$3\times 2 \quad 2\times 3 \quad 3\times 3$

(b) $BA = \begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 5 \end{bmatrix} \begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 2 & 3 \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 12 & 18 \end{bmatrix}$

$2\times 3 \quad 3\times 2 \quad 2\times 2$