Math 218D: Quiz 1
September 2, 2022

1. Decide whether the following statement is true or false and explain your answer.

Let A be an $m \times n$ matrix and let b be a vector in $\mathbf{R}^n$. Then $A(Ab)$ is defined.

2. Determine the number of solutions to each of the following linear systems of equations/augmented matrices.

a)
$$\begin{aligned} x + \ y &= 1 \\ 2y &= 2. \end{aligned}$$

b)
$$\begin{pmatrix} 7 & 4 & 9 & | & 8 \\ 0 & 0 & 10 & | & 4 \\ 0 & 0 & 0 & | & 1 \end{pmatrix}.$$