

Name:

1. Let A and B be two $n \times n$ matrices. For each of the following statements, write the word “true” or “false.”

(a) If A and B are invertible, then so is AB .

(b) If $A + B$ is invertible, then so is at least one out of A and B .

2. Find all solutions to the following system of equations.

$$\begin{aligned}x + z &= 6 \\(1 - i)y - (2 - 3i)z &= -6 + 12i \\2x + y - z &= 1 + i\end{aligned}$$