

Last Name: _____

First Name: _____

Student ID: _____

Quiz 4 (B)

Question 1. (4 marks) Find A^{-1} if possible given:

$$A = \begin{bmatrix} 4 & 4 & 4 \\ 2 & -1 & -1 \\ 4 & 1 & 1 \end{bmatrix}$$

Question 2. (3 marks) Find a matrix B such that

$$B^{-3} = \begin{bmatrix} -1 & 0 & 0 \\ 0 & 8 & 0 \\ 0 & 0 & 27 \end{bmatrix}$$

Question 3. (3 marks) Find conditions that b_1 and b_2 must satisfy in order for the system to be consistent.

$$\begin{aligned} 6x_1 - 9x_2 &= b_1 \\ 2x_1 - 3x_2 &= b_2 \end{aligned}$$