

1. Consider the following system of linear equations.

$$x + 2y + 3z = 0$$

$$4x + 5y + 6z = 0$$

$$7x + 8y + 9z = 0$$

- (a) Find the augmented matrix of the system.
- (b) Find the **reduced row echelon form** of the matrix.
- (c) What is the general solution to the system?