Dawson College: Linear Algebra (COMPUTER SCIENCE): 201-NYC-05-S9: Fall 2022: Quiz 4	name:	
Books, watches, notes or cell phones are not allowed. The only calculators allowed are the Sharp EL-531**. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work		
Question 1. (2 marks) Determine whether the following statement is true or false. If the statement is false	e provide a counterexample.	If the

Question 1. (2 marks) Determine whether the following statement is true or false. If the statement is false provide a counterexample. If the statement is true provide a proof of the statement.

The sum of two invertible matrices of the same size must be invertible.

Question 2. (3 marks) Show that if a square matrix A satisfies the equation $A^2 + 2A + I = 0$, then A must be invertible. What is the inverse?

Question 3. (5 marks) Solve for X given that it satisfies

$$\left(2A + X^T\right)^{-1} = I$$

where

$$A = \begin{bmatrix} 1 & 3 \\ 1 & 2 \end{bmatrix}$$