LINEAR ALGEBRA
SPRING 2021

ASSIGNMENT 6
DUE MARCH 17

2.1. # 27, 28

2.2. # 3, 6, 7, 8, 26

Exercise 1. A square matrix A is called *nilpotent* if $A^k = 0$ for some $k \geq 1$. Prove that if A is nilpotent, then $I - A$ is invertible and its inverse is given by the formula

$$(I - A)^{-1} = I + A + A^2 + A^3 + \cdots$$

Does this result look familiar?