Please put away all electronic devices. This sheet will be collected but not assessed. The professor will look at the second page but will ignore the first page.

**Motivational awareness** (adapted from PositivePsychology.com). What motivates you? You may find that you start out rather writing specific things (“I want to achieve X, I want to have Y”). Great! To the degree possible, after mentioning those, try to generalize them to values (“Z is important to me,” “I want to have a life that is W,” etc.).

Consider the matrix . What is the 1-norm?

Answer:

What is the infinity-norm?

Answer:

Suppose a matrix **A** is ill-conditioned (meaning, it has a large condition number). In words (without using formulas) describe as straightforwardly as possible what this means in the context of solving the system of equations **Ax** = **b**.

Consider the matrix . What is the condition number of this matrix in the 1-norm?

Answer: