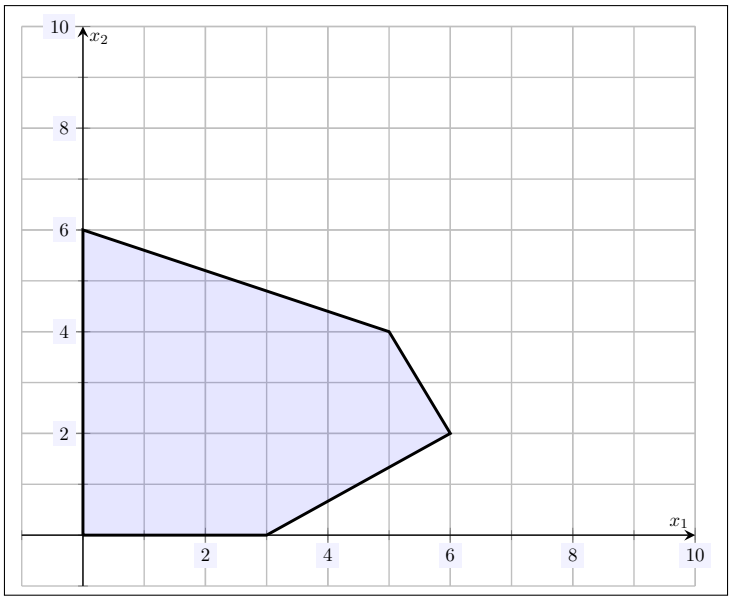
Name: _____

MATH 108
Spring 2023
HW 15: Due 05/01

"True optimization is the revolutionary contribution of modern research to decision processes."

–George Dantzig

Problem 1. (10pt) Find the maximum and minimum values for the function $z = 4x_1 + 5x_2$ on the region shown below. Be sure to fully justify that your answers are correct.



Problem 2. (10pt) Consider the function $z = 5x_1 - x_2$. Does this function has a maximum on the region shown below? If so, explain and find the maximum. If not, explain why. Answer the same question for the minimum of z on the region shown below.