

Name: \_\_\_\_\_

MATH 108

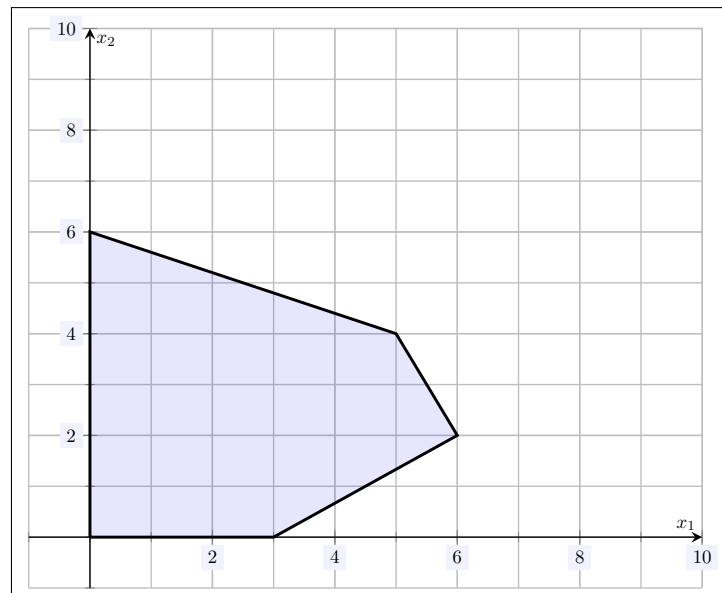
Spring 2023

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.

