

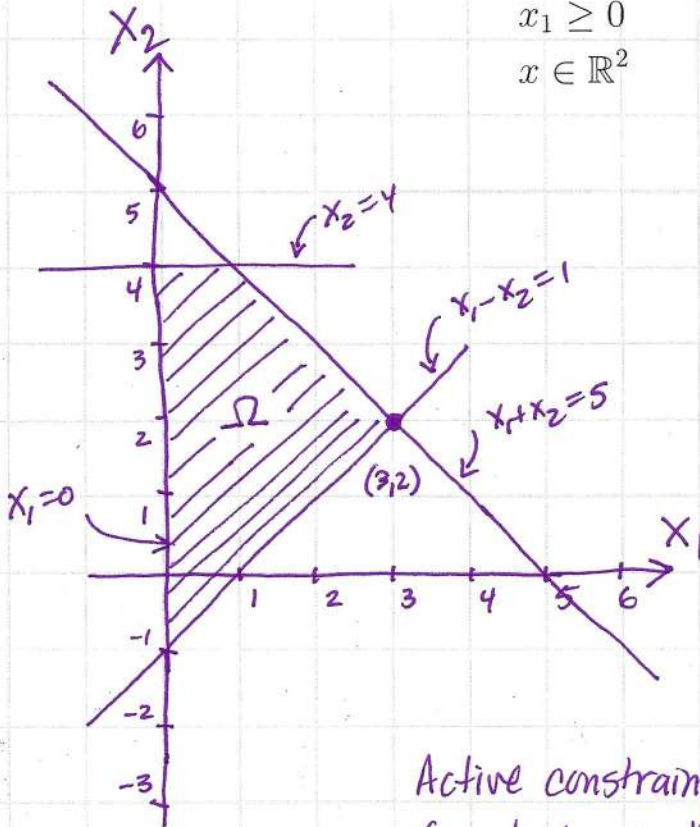
Name Answer Key

WSU ID# _____

Math 364 Quiz – Week #5

Draw a careful, accurate and labeled sketch of the feasible region of the following linear program. Identify which constraints are active at the point $(x_1, x_2) = (3, 2)$.

$$\begin{aligned} \min_x \quad & z = 3x_1 + 2x_2 \\ \text{s.t.} \quad & x_1 + x_2 \leq 5 \\ & x_1 - x_2 \leq 1 \\ & x_2 \leq 4 \\ & x_1 \geq 0 \\ & x \in \mathbb{R}^2 \end{aligned}$$



Active constraints at $(3, 2)$ are those for which equality holds, namely

$$x_1 + x_2 \leq 5 \quad \text{and} \quad x_1 - x_2 \leq 1$$