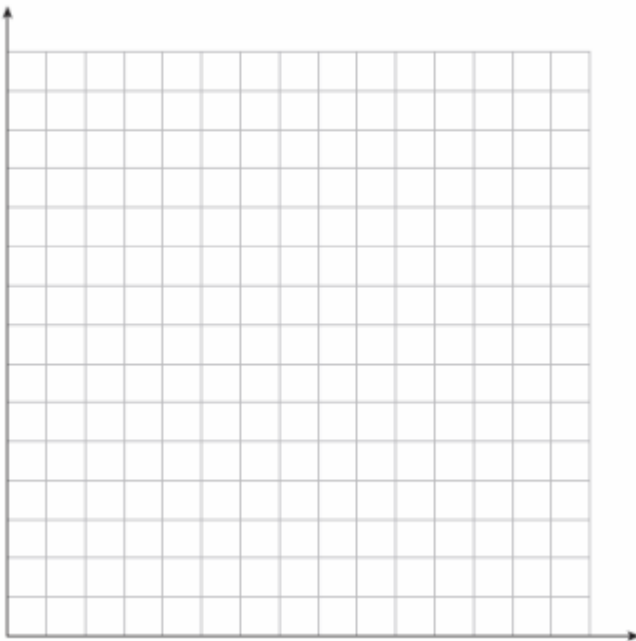


6.5 Optimization Problems 2: Exploring Solutions

Now that we understand what an optimization problem is and how to set up a model for such problems, it is time to consider the solutions we find.

Optimal solution: _____

Find the maximum values of the objective function given by $C = 7x + 3y$, subject to the following constraints: $x \geq 0$, $y \geq 0$, $x - y \geq -4$, $2x + y \leq 10$



As you move from left to right across the feasible region, what happens to the value of C ?

As you move from the bottom to top of the feasible region, what happens to the value of C ?

What points in the feasible region result in each optimal solution:

a) maximum possible value of C ?

b) minimum possible value of C ?

Need to Know:

- The boundary intersection points are the _____.
- These vertices represent the _____ for the objective function.
- If a vertex is not part of the solution set, then the optimal solution _____.

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