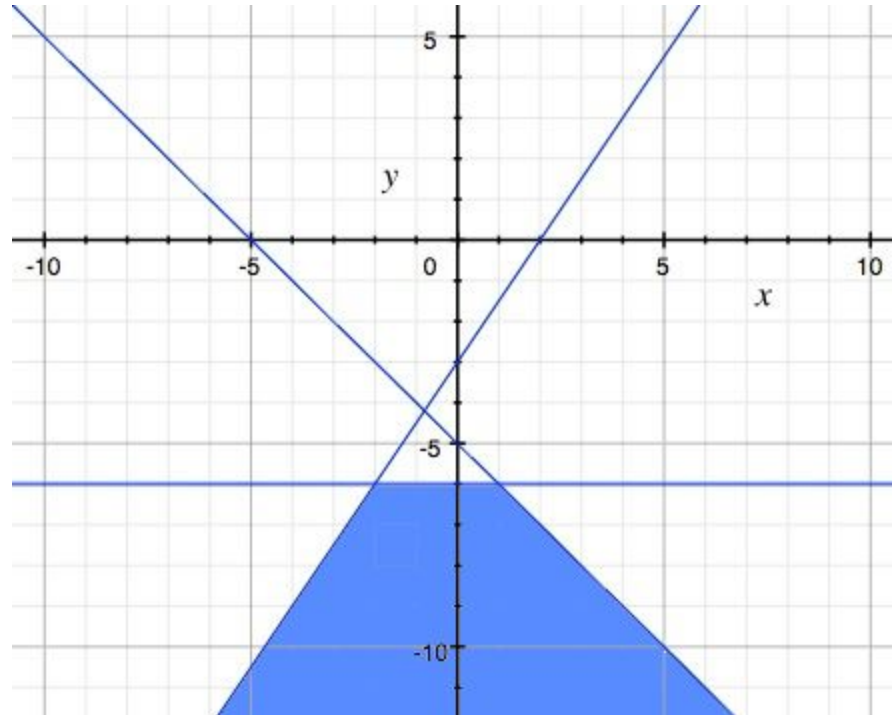


Homework 5 Solution

Section 3.1

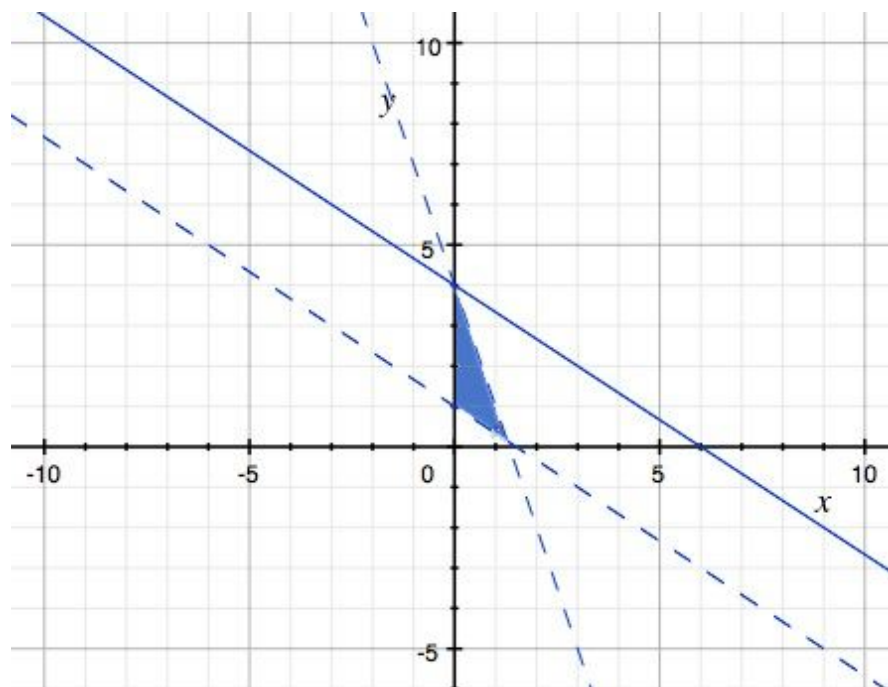
3.1.26. Graph the feasible region for

$$\begin{aligned}3x - 2y &\geq 6 \\x + y &\leq -5 \\y &\leq -6.\end{aligned}$$



3.1.30. Graph the feasible region for

$$\begin{aligned}2x + 3y &\leq 12 \\2x + 3y &> 3 \\3x + y &< 4 \\x &\geq 0 \\y &\geq 0.\end{aligned}$$



3.1.42. The California Almond Growers have at most 2400 boxes of almonds to be shipped from their plant in Sacramento to Des Moines and San Antonio. The Des Moines market needs at least 1000 boxes, while the San Antonio market must have at least 800 boxes. Let x = the number of boxes to be shipped to Des Moines and y = the number of boxes to be shipped to San Antonio.

(a) Write a system of inequalities to express the conditions of the problem.

Because the total number of boxes is at most 2400, we have $x+y \leq 2400$. Also we have $x \geq 1000$ and $y \geq 800$ from the demands of two plants. Therefore the system of inequalities is

$$x + y \leq 2400$$

$$x \geq 1000$$

$$y \geq 800.$$

(b) Graph the feasible region of the system.

