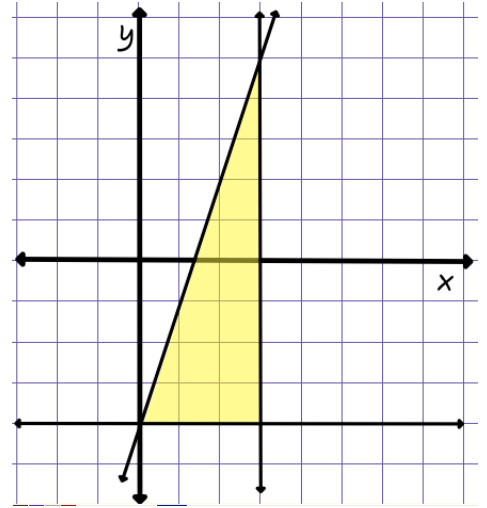


Linear Programming

Identify the vertices of the feasible region of each linear programming graph and find the max and min given the objective function.

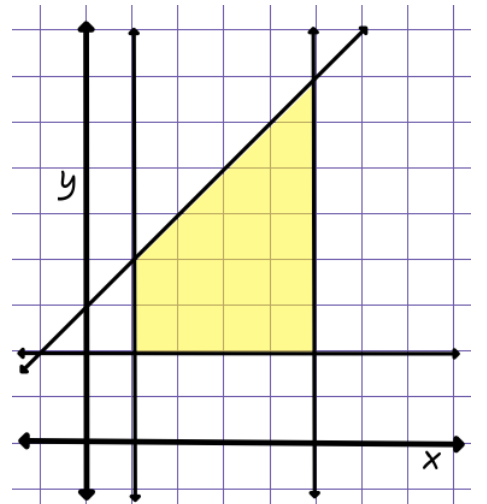
1)

Vertices	$f(x, y) = x - y$	Max/Min



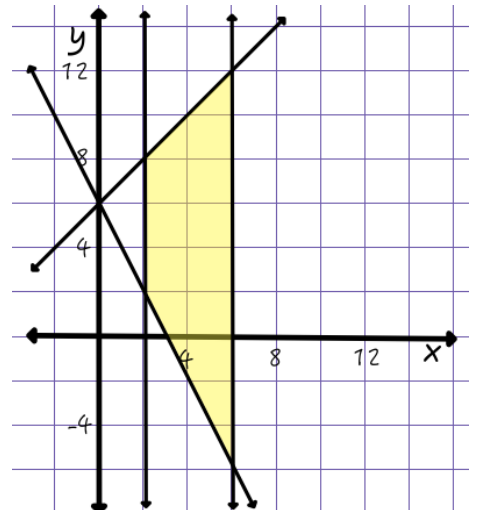
2)

Vertices	$f(x, y) = 3x - 2y$	Max/Min



3)

Vertices	$f(x, y) = -x + 3y$	Max/Min

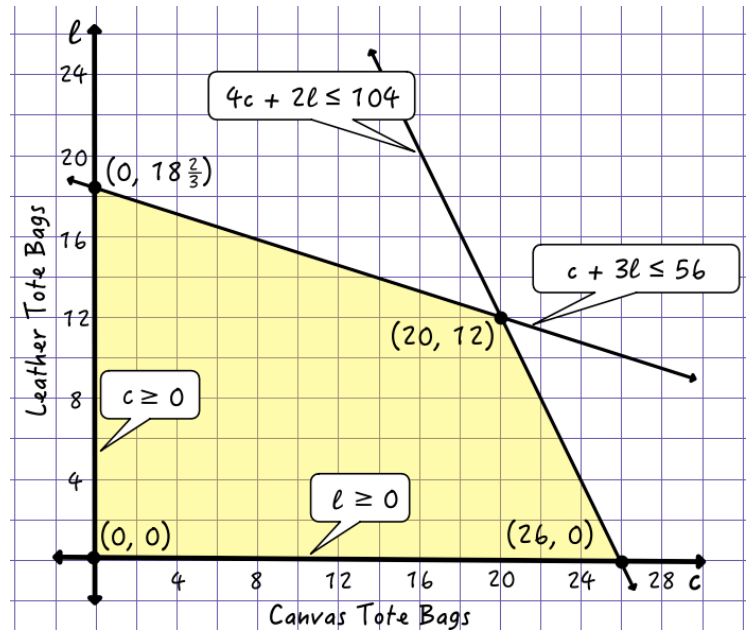


4) The Future Homemakers Club is making canvas tote bags and leather tote bags for a money making project. Both types of tote bags will be lined with canvas and have leather handles of both bags. For the canvas tote bags, they need 4 yards of canvas and 1 yard of leather. For the leather tote bags, they need 3 yards of leather and 2 yards of canvas. Their faculty adviser has purchased 56 yards of leather and 104 yards of canvas.

Let c = the number of canvas tote bags and let l = the number of leather tote bags

- List the coordinates of the feasible region.
- If the club plans to sell the canvas bags at a profit of \$20 each and the leather bags at a profit of \$35 each, write a function for the total profit on the bags.

P =
- Determine the number of canvas bags and leather bags that they need to make for a maximum profit.
- What is the maximum profit?



5) As a receptionist for a veterinarian, one of Dolores Alvarez's tasks is to schedule appointments. She allots 20 minutes for a routine office visit and 40 minutes for a surgery. The veterinarian cannot do more than 6 surgeries per day. The office has 7 hours available for appointments.

- List the coordinates of the feasible region.
- If an office visit cost \$75 and most surgeries cost \$250, write a function for the total income received per day.

I =
- Determine the number of office visits and the number of surgeries that will maximize their income.
- What is the maximum income?

