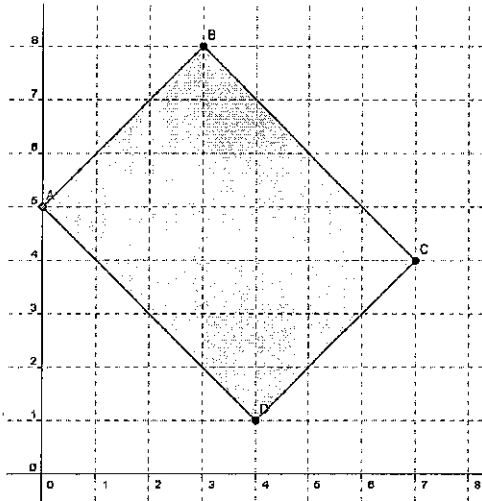


Worksheet 3.2 – Linear Programming

The following graphs show regions of feasible solutions. Use these regions to find maximum and minimum values of the given objective functions.

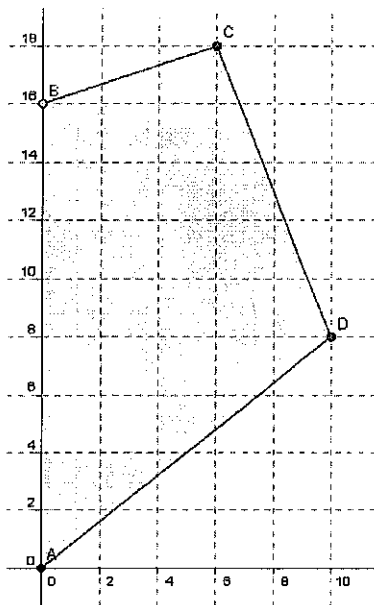
Use this feasible region for #1 & #2



1.) $z = 3x + 2y$

2.) $z = x - 4y$

Use this feasible region for #3 & 4

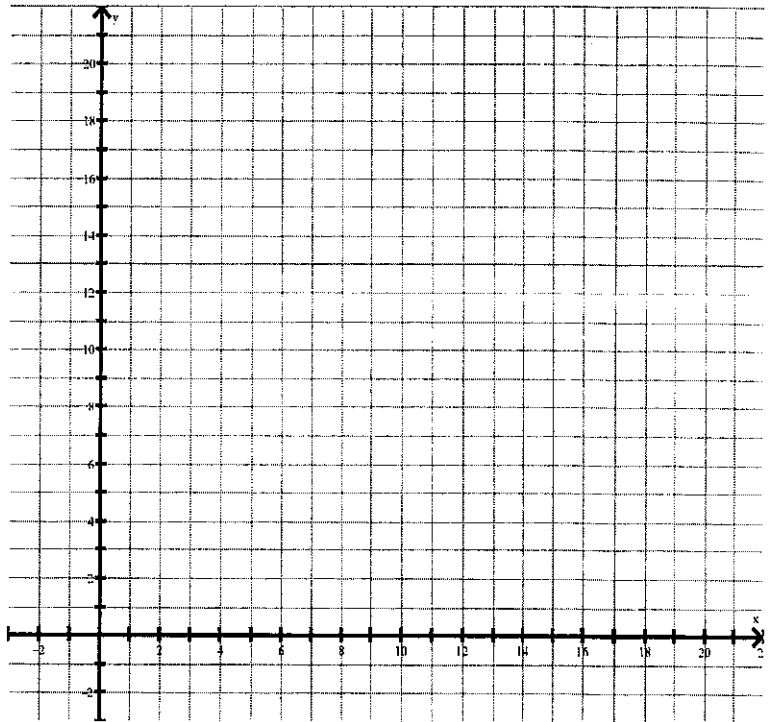


3.) $z = 0.35x + 1.25y$

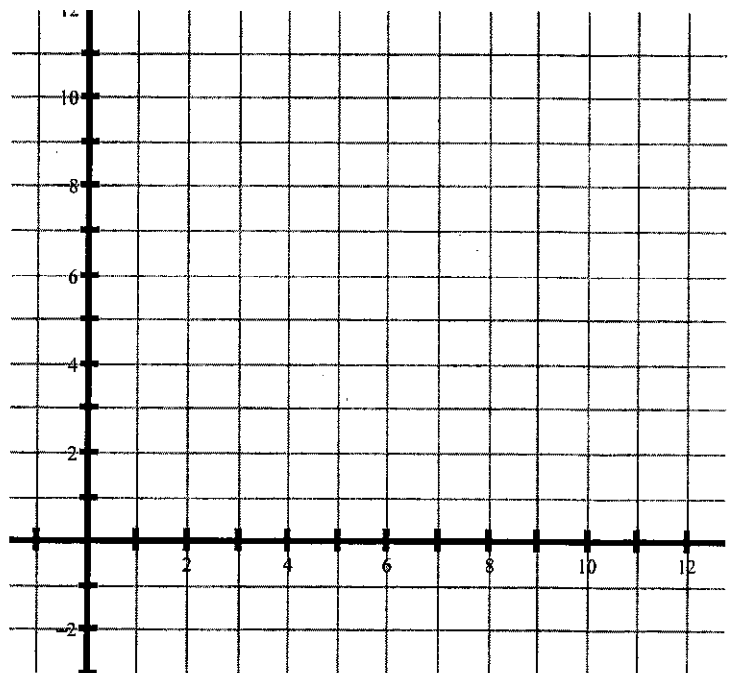
4.) $z = 1.5x - 0.5y$

Find the Maximum or Minimum Value for the Objective Function for each set of constraints.

5. Maximize:
 $z = 8x + 2y$
Subject to:
 $4x + 5y \leq 35$
 $x + 5y \leq 20$
 $y \geq 0$
 $x \geq 0$



6. Minimize:
 $z = x - 2y$
Subject to:
 $3x + 4y \geq 12$
 $x + 2y \leq 10$
 $0 \leq x \leq 4$



7. Minimize:

$$z = 4x + 7y$$

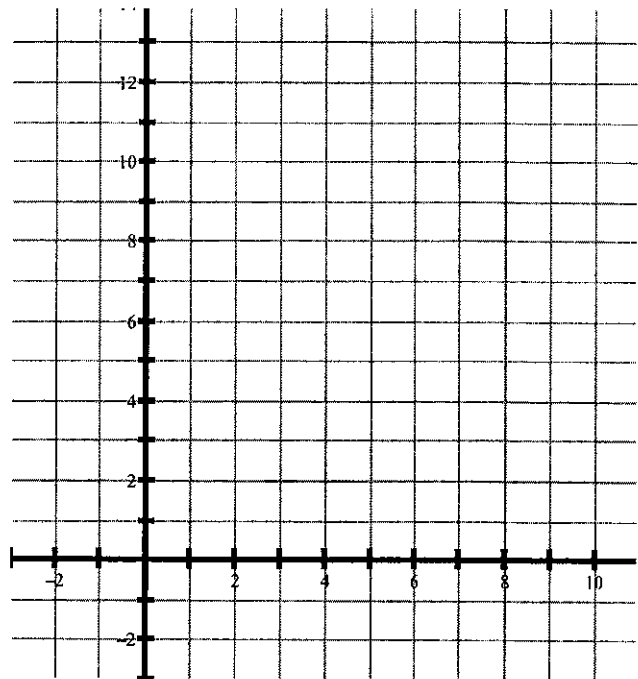
Subject to:

$$x - y \geq 1$$

$$3x + 2y \geq 18$$

$$x \geq 0$$

$$y \geq 0$$



8. Maximize:

$$z = 5x + 2y$$

Subject to:

$$4x - y \leq 16$$

$$2x + y \geq 11$$

$$x \geq 3$$

$$y \leq 8$$

