

Week in Review #3

- x = the number of small 3 bedroom houses built
 y = the number of large 3 bedroom houses built
 z = the number of 4 bedroom houses built

Objective function:

$$P = 20000x + 25000y + 24000z$$

Constraints:

$$60000x + 64000y + 80000z \leq 4500000$$

$$4000x + 3000y + 3900z \leq 250000$$

$$.5x + .75y + 1.5z \leq 41$$

$$x \geq 0, \quad y \geq 0, \quad z \geq 0$$

- x = the number of Sprinkle umbrellas
 y = the number of Storm umbrellas
 z = the number of Hurricane umbrellas

$$\max P = x + y + 2z$$

$$x + 2y + 2z \leq 300$$

$$2x + y + 3z \leq 800$$

$$x + 3y + 6z \leq 600$$

$$x \leq 170$$

$$x, y, z \geq 0$$

- x = the number of books shipped from City A to college C.
 y = the number of books shipped from City A to college D.
 z = the number of books shipped from City A to college E.
 u = the number of books shipped from City B to college C.
 v = the number of books shipped from City B to college D.
 w = the number of books shipped from City B to college E.

Objective function:

$$\text{Cost} = 1.15x + 1.75y + 1.35z + 1u + 1.35v + 1.28z$$

Constraints:

$$x + y + z \leq 15000$$

$$u + v + w \leq 8000$$

$$x + u \geq 4000$$

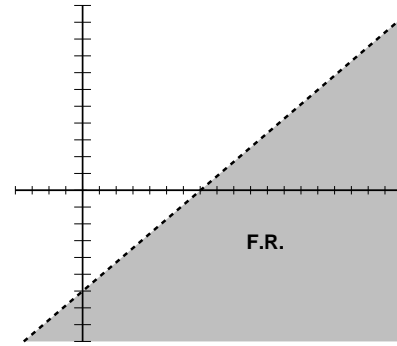
$$y + v \geq 10000$$

$$z + w \geq 8000$$

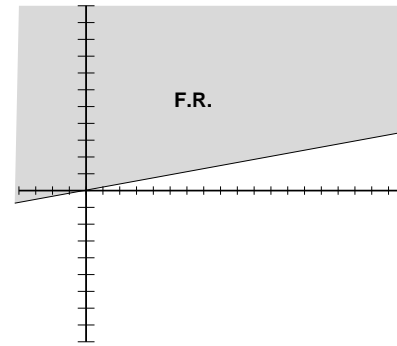
$$x \geq 0, \quad y \geq 0, \quad z \geq 0$$

$$u \geq 0, \quad v \geq 0, \quad w \geq 0$$

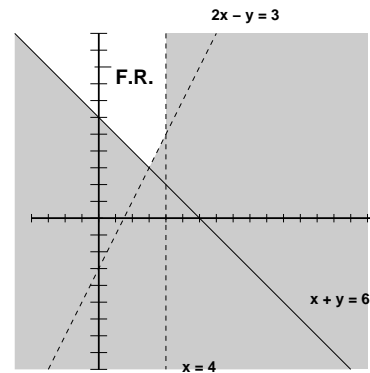
- Feasible region(F.R.) is the shaded section.



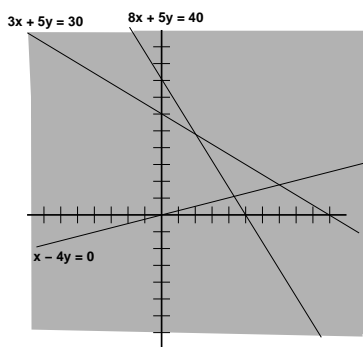
- Feasible region(F.R.) is the shaded section.



- Feasible region(F.R.) is the unshaded section.



7. Feasible region(F.R.) is the unshaded section.



since there is no unshaded region, then there is no feasible region.

8. Feasible region(F.R.) is the unshaded section.

