

Practice for 4.4 Systems of Inequalities

The following problems will help you practice the material you learned today. Once you are finished check your solutions. Once done, you can work on your WeBWork homework.

Sketch the graph, label the vertices and shade in the appropriate area. These will be the constraints for 7.6 problems.

1. $x - 2y < -6$
 $5x - 3y > -9$

2. $x^2 + y^2 \leq 25$
 $4x - 3y \leq 0$

3. A toy shop produces widgets and gizmos. It takes 1 hour to make a widget and 4 hours to paint it. It takes 3 hours to make a gizmo and 1 hour to paint it. There are 15 hours available for construction and 16 for painting. The company must produce at least one of each toy.

4. The concert (from lecture)

For a concert event, there are \$30 reserved seat tickets, and \$20 general admission tickets. There are 2000 reserved seats available and the fire regulations limit the number of paid ticket holders to 3000. The promoter must take in \$75,000 in ticket sales. Find and graph the system of inequalities describing the different number of tickets that can be sold.