1) Jordan works for a landscape company during his summer vacation.  He is paid $12 per hour for mowing lawns and $14 per hour for planting gardens.  He can work a maximum of 40 hours per week.  He would like to earn at least $250 this week.  There are only two gardens to plant this week and each job will take a maximum of 4 hours, however he does not have to elect to work on those jobs or stay on those jobs the entire time.  Jordan knows that he must spend at least 15 hours mowing lawns.

   a.  What does your x-value represent?

   The x-value represents the number of hours Jordan spends mowing lawns.

   b.  What does your y-value represent?

   The y-value represents the number of hours Jordan spends planting gardens.

   c.  Write the inequalities that represent the conditions listed in the problem.

   $12x + 14y \geq 250$                           $y \leq 8$

   $x + y \leq 40$                               $x \geq 15$

   d.  List three possible values that would be solutions to conditions set out in the problem.

   25 hours mowing lawns and 5 hours planting gardens.

   20 hours mowing lawns and 8 hours planting gardens.

   32 hours mowing lawns and 8 hours planting gardens.

   e.  Can Jordan work 19 hours mowing lawns, and 2 hours planting gardens and still meet his goal?  Why or why not?

   Jordan can work 19 hours mowing lawns and 2 hours planting gardens.  It meets all of the conditions.  Jordan would work more than 15 hours mowing lawns, less than 8 hours planting gardens, and he would work less than the 40-hour maximum.  He would also make $256 which is above his $250 goal.

   f.  Can Jordan work 30 hours mowing lawns, and 10 hours planting gardens and still meet his goal?  Why or why not?

   Jordan cannot work 30 hours mowing lawns and 10 hours planting gardens because it violates the condition that he work a maximum of 8 hours planting gardens.