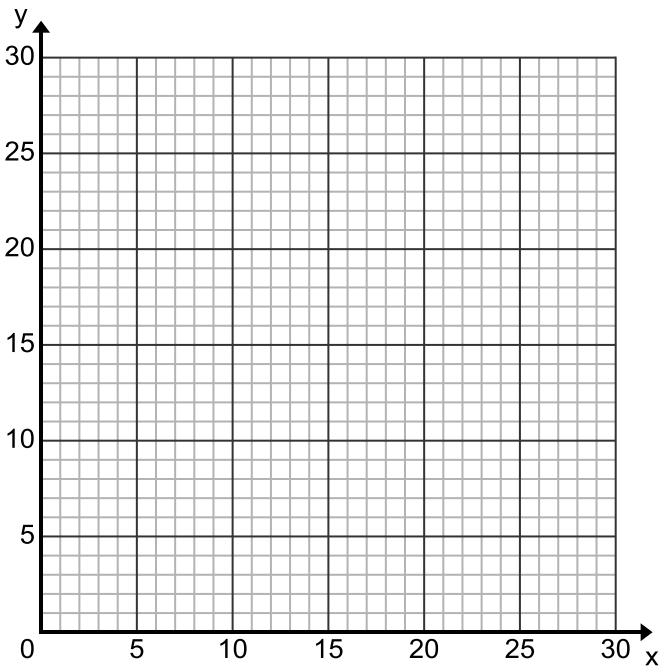
Assignment: Graph Linear Inequalities

Follow the directions to solve each of the problems below.

1. The local school district has decided to limit class sizes for grades kindergarten to third grade. The inequality $y < -x + 25$ represents the number girls (x) and boys (y) allowed in each class.

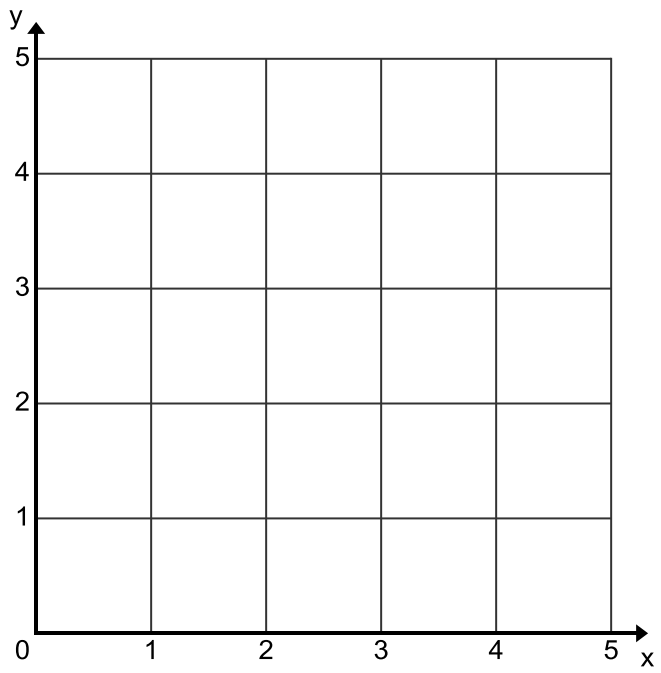
   a. Graph the inequality on the coordinate plane below.



   b. Choose an ordered pair (x, y) that is part of the solution set and write 1-2 sentences to explain the meaning of the ordered pair for this situation.

2. Kendra goes to her local farmers' market to purchase some fresh fruit. The inequality $y \leq -\frac{3}{4}x + 3$ represents the number of pounds of apples (x) and oranges (y) she can purchase for no more than $12.

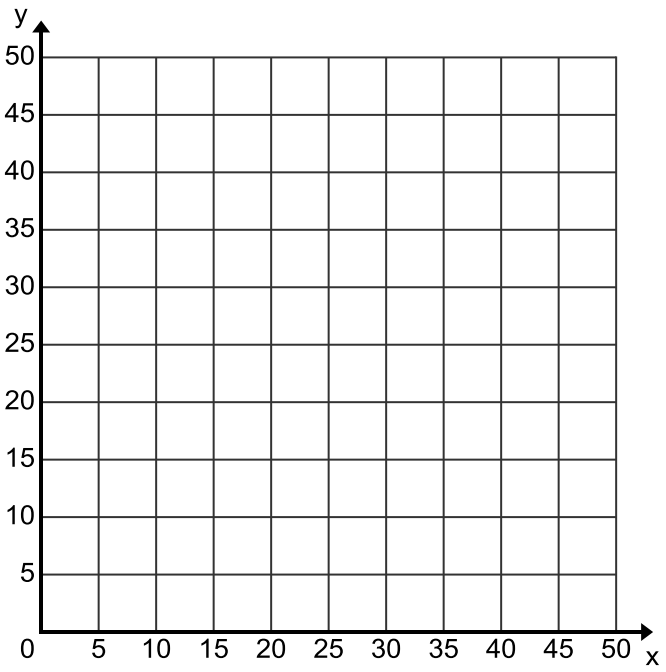
   a. Graph the inequality on the coordinate plane below.



   b. Choose an ordered pair (x, y) that is part of the solution set and write 1-2 sentences to explain the meaning of the ordered pair for this situation.

3. A skateboard shop offers two different sized skateboards for sale. The inequality $y \geq -\frac{1}{2}x + 30$ represents the number of each size skateboard the shop needs to sell every week to make a profit of at least $1,500, where *x* represents the number of smaller skateboards sold, and *y* represents the number of larger skateboards sold.

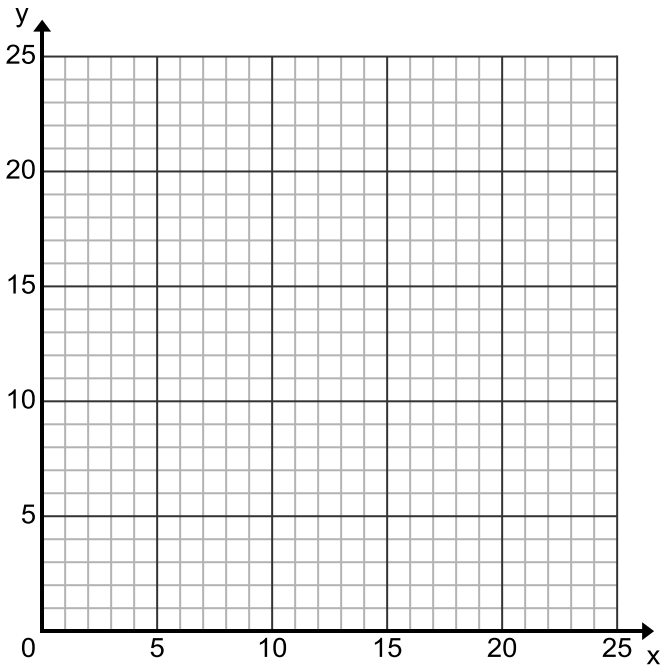
   a. Graph the inequality on the coordinate plane below.



   b. Choose an ordered pair (*x*, *y*) that is part of the solution set and write 1-2 sentences to explain the meaning of the ordered pair for this situation.

4. Now create your own real-world situation involving the linear inequality $y > -2x + 20$.

   a. Graph the inequality on the coordinate plane below.



   b. Think of a real-world situation that makes sense for this inequality. Write a brief description of the situation.

   c. Choose an ordered pair (x, y) that is part of the solution set and write 1-2 sentences to explain the meaning of the ordered pair for your situation.