Section 5.5 Systems of Linear Inequalities

Just as a system of linear equations is made up of two or more linear equations, a **system of linear inequalities** is composed of two or more linear inequalities.

A **solution of a system of linear inequalities** is an ordered pair that satisfies each inequality in the system. The set of all such ordered pairs is the solution set of the system.

# Objective 1: Graphing Systems of Linear Inequalities

The solution set of a system of linear inequalities can best be represented with a graph.

Graph the solution set of the system of linear inequalities.

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| a.  Blank coordinate plane that spans from negative ten to positive ten on each axis with a scale of one unit. | b.  Blank coordinate plane that spans from negative ten to positive ten on each axis with a scale of one unit. |
| c.  Blank coordinate plane that spans from negative ten to positive ten on each axis with a scale of one unit. | d.  Blank coordinate plane that spans from negative ten to positive ten on each axis with a scale of one unit. |

# Objective 2: Modeling with Systems of Linear Inequalities

Franklin High School is planning to take students to a play at a community theater. The theater can hold no more than people. For every students, there must be at least one adult.

a. Let represent the number of students and let represent the number of adults. Write a system of linear inequalities that models this situation.

b. Graph the solution set of the system of inequalities.