

## 5 Test Prep

Complete the following to summarize the important ideas from this chapter.

Q: When you graph a linear inequality in two variables, how do you decide which points are in the solution set?

NEED HELP?

- See Lesson 6.1

A:

- First, determine the boundary by turning the inequality sign into an = sign.
- To determine which half plane is included in the solution set, use the inequality to test a point on either side of the boundary.
- If the inequality type is  $<$  or  $>$ , the boundary is/is not included. Use a dashed line for the boundary.
- If the inequality type is  $\leq$  or  $\geq$ , the boundary is/is not included. Use a solid line for the boundary with a continuous solution set, and a stippled line with a discrete solution set.

Q: How can you locate the points representing an optimal solution?

- A:
- In the continuous case, the optimal solutions will be at the vertices of the feasible region.
  - In the discrete case, the optimal solutions may not be at the vertices of the feasible region. However, they will be near to the vertices.

NEED HELP?

- See Lesson 6.5

Q: What are the key steps in linear programming?

- A:
- Create an algebraic model with a defining statement, restrictions, constraints, and an objective function.
  - Create a graphical model of the system of inequalities locate the vertices of the feasible region.
  - Evaluate the objective function at (or near) the vertices.
  - Choose the desired solution (s). Verify that each solution satisfies the constraints for the problem.

NEED HELP?

- See Lesson 6.6