Systems of Inequalities Word Problems Notes

Use a system of linear inequalities to solve each problem.

1) In basketball you score 2 points for a field goal and 1 point for a free throw. Suppose that you have scored at least 3 points in every game this season, and have a season high score of at most 15 points in one game. How many field goals and free throws could you have made in any one game?

a. Write a system of two inequalities that describes this situation.

b. Graph the system to show all possible outcomes.

c. Write one possible solution to the problem in sentence form.
2) A radio station is giving away tickets to a play. They plan to give away tickets for seats that cost $10 and $20. They want to give away at least 20 tickets. The total cost of all the tickets they give away can be no more than $280.

a. Write a system of two inequalities that describes this situation. Let \( x \) = number of $10 tickets and \( y \) = number of $20 tickets.

b. Graph the system to show all possible outcomes.

c. Write one possible solution to the problem in sentence form.