Assignment

Name _____ Date _____

Basketball Tournament
Using Linear Combinations to Solve a Linear System

Cafeteria workers at a summer camp are preparing lunches for all the campers and counselors. The total number of campers and counselors is 300. The difference between the number of campers and the number of counselors is 280.

1. Write an equation in standard form that represents the total number of people at the camp. Let x represent the number of campers and let y represent the number of counselors.

2. Write an equation in standard form that represents the difference between the numbers of campers and counselors.

3. Write the linear system for this problem situation below.

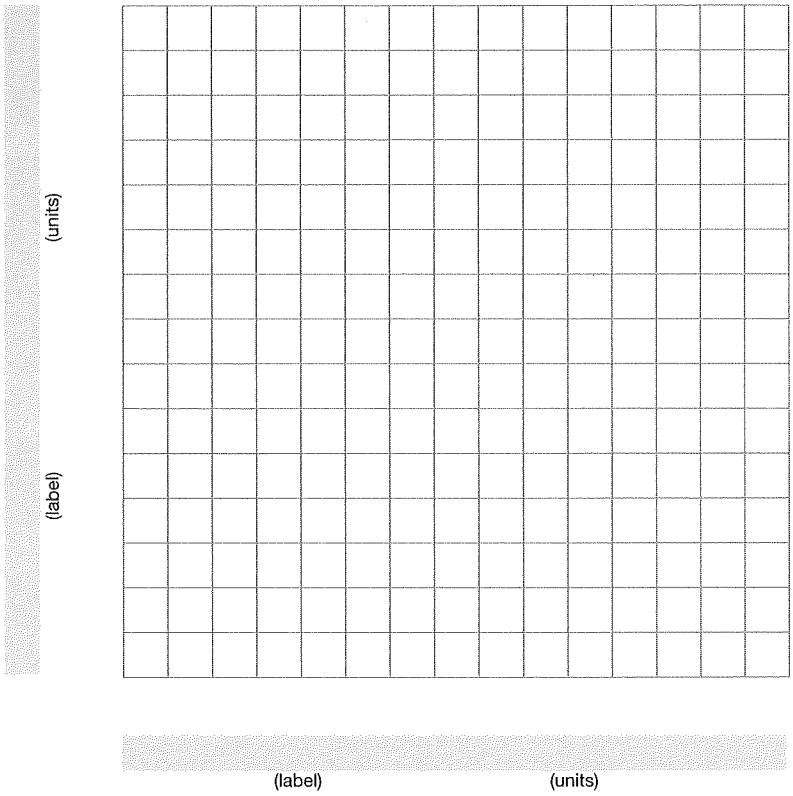
4. Solve the linear system in Question 3. Show all your work and write your answer in a complete sentence.

5. Check your solution algebraically. Show all your work.

7

6. Check your solution by creating a graph of your linear system on the grid below. First, choose your bounds and intervals. Be sure to label your graph clearly.

Variable quantity	Lower bound	Upper bound	Interval
Campers			
Counselors			



7. For the linear system below, describe two different first steps you could take to solve the system by using the linear combination method. Identify the variable that will be solved for when you add equations for each case. Use complete sentences in your answer.

$-4x + 5y = 20$

$2x - 10y = 20$