

Name \_\_\_\_\_

Date \_\_\_\_\_

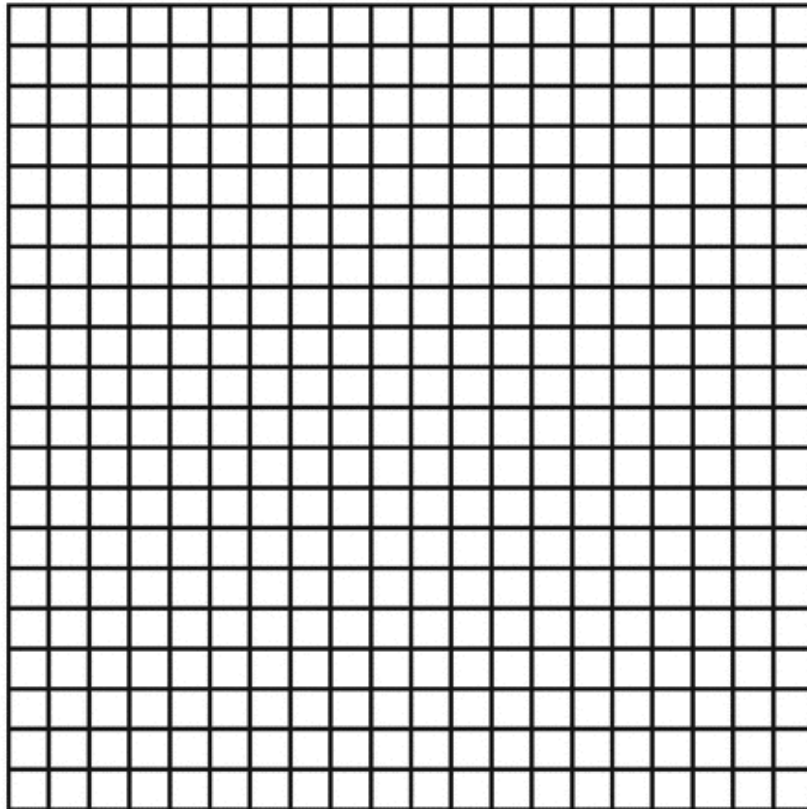
### Group Activity with Systems of Inequalities

Work together with your group to solve each word problem using a system of inequalities.

For each problem make sure to do the following:

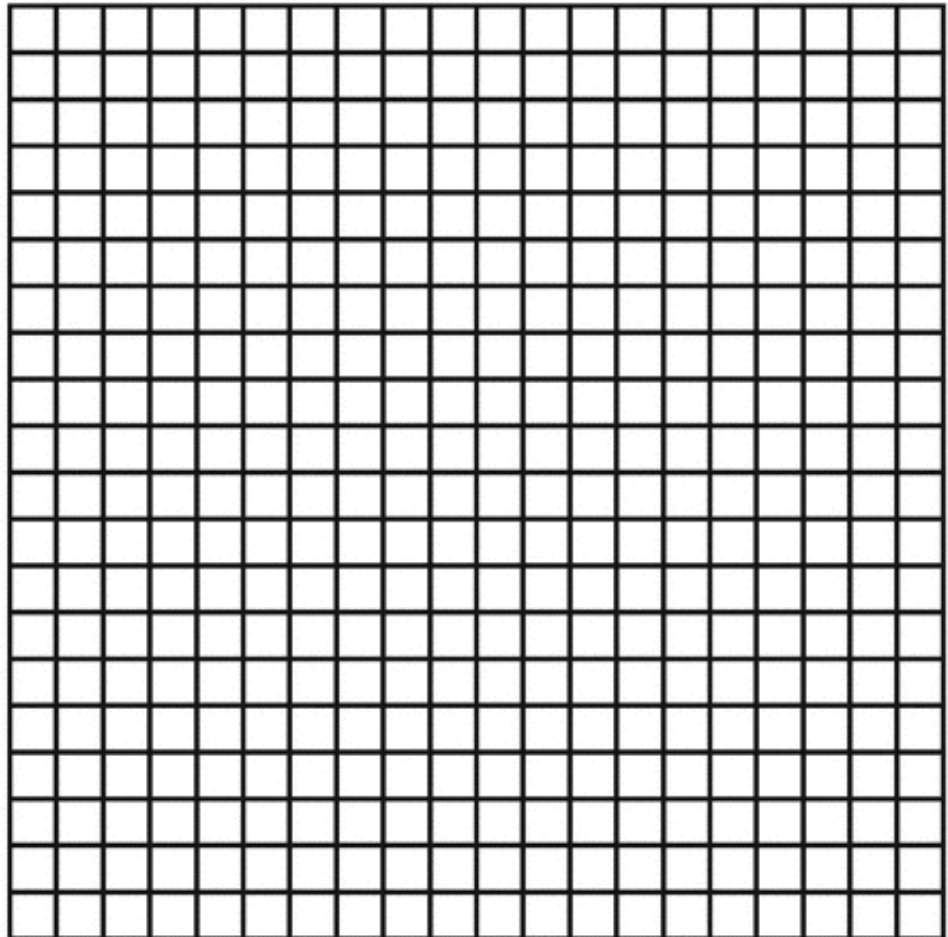
- **Define the variables**
- **Create a system of inequalities that represents the given situation**
- **Solve the system graphically**
- **Title the graph**
- **Label and title axes**
- **Answer the question.**

- 1.) The girls' swim team is hosting a fund raiser. They would like to raise at least \$500. They are selling candles for \$5 and flower arrangements for \$6. The girls estimate that at most they will sell at most 200 items. On the set of axes below graph the system of inequalities that models the situation.



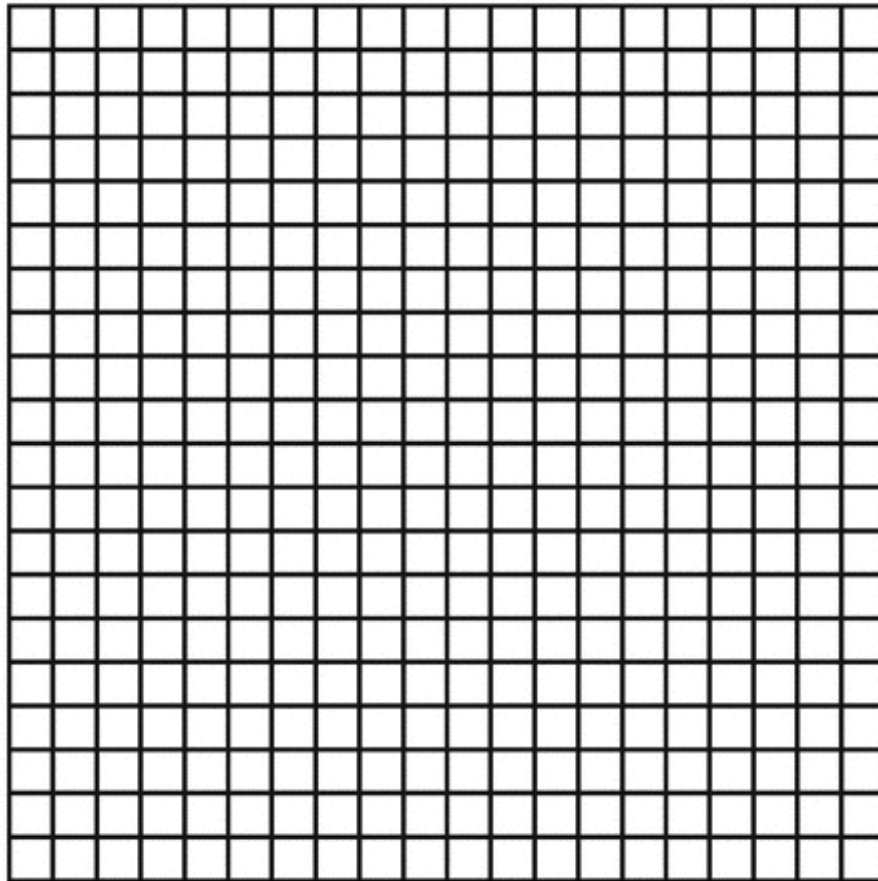
- b. Determine one combination candles and flower arrangements the girls must sell to reach their goal.

2. An online electronics store must sell at least \$2500 worth of printers and computers per day. Each printer costs \$50 and each computer costs \$500. The store can ship a maximum of 35 items per day. On the set of axes below, graph a system of inequalities that models these constraints.



- b. Determine one combination of printers and computers sales that would allow the electronics store to meet all of the constraints.

- c. The middle school drama club, **SPOTLIGHT**, is putting on their annual theater production, **Cinderella**. There is a maximum of 200 tickets for the show. The cost of the tickets are \$8.00 if purchased before the day of the show and \$10 on the day of the show. To meet the expenses of the show, the club must sell at least \$1000 worth of tickets for Saturday's show. Write a system of inequalities that can be used to represent the situation. Graph these inequalities on the set of axes below.



If 50 tickets are sold in advance, use your graph to determine a reasonable number of tickets that should be sold on the day of the show for the club to meet their goal. Justify your answer.