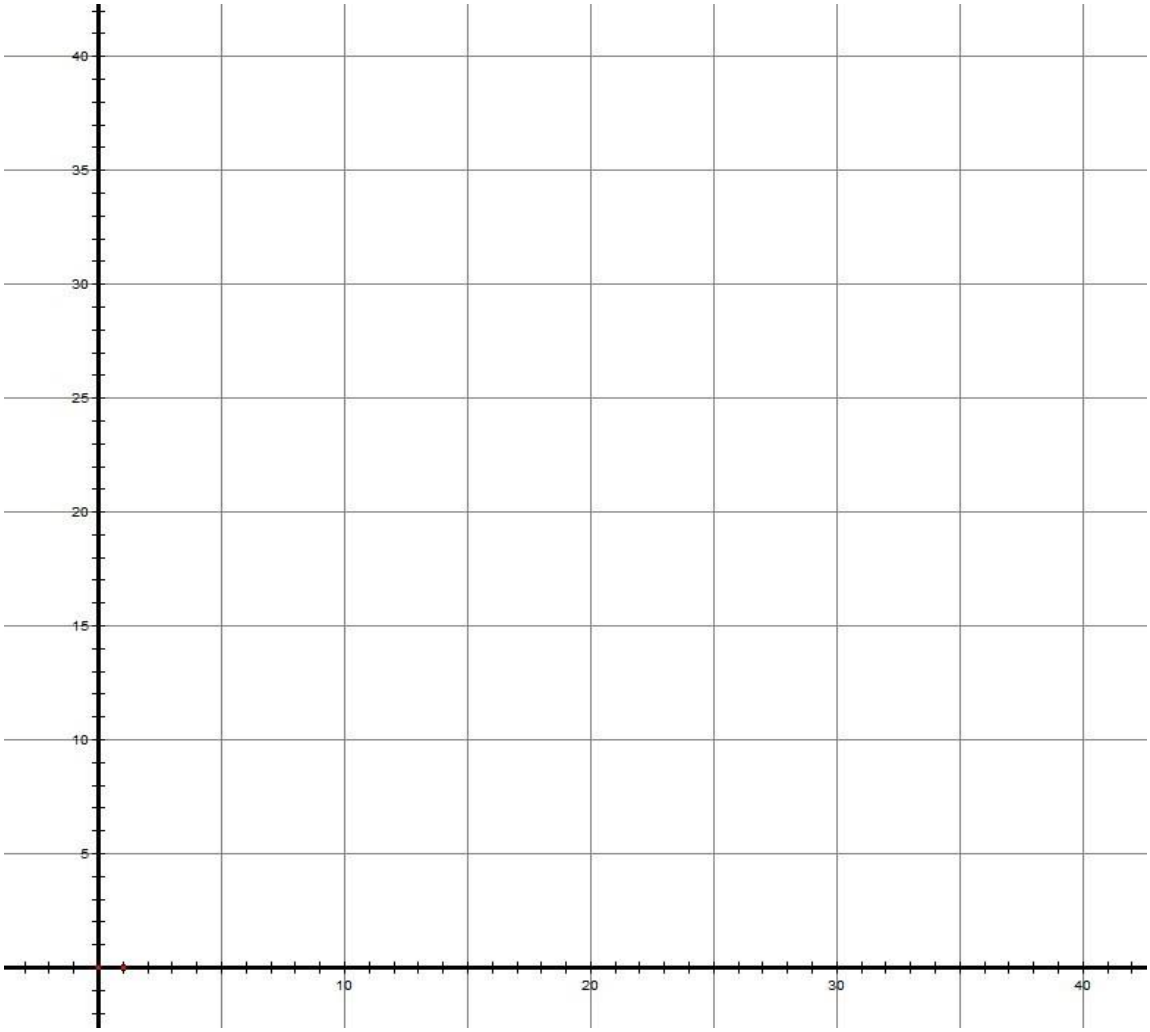
Name:_____ Date: _____ Period:____

4.1e system of ineq word problems

1) Isaac earns $10 per hour working as a lifeguard at his neighborhood pool. He also coaches a baseball team for $18 per hour. Isaac needs to earn at least $270 per week, but he does not want to work more than 25 hours per week.

PART A: Define the variables and write a system of linear inequalities to represent the situation.

PART B: Graph the system of inequalities.



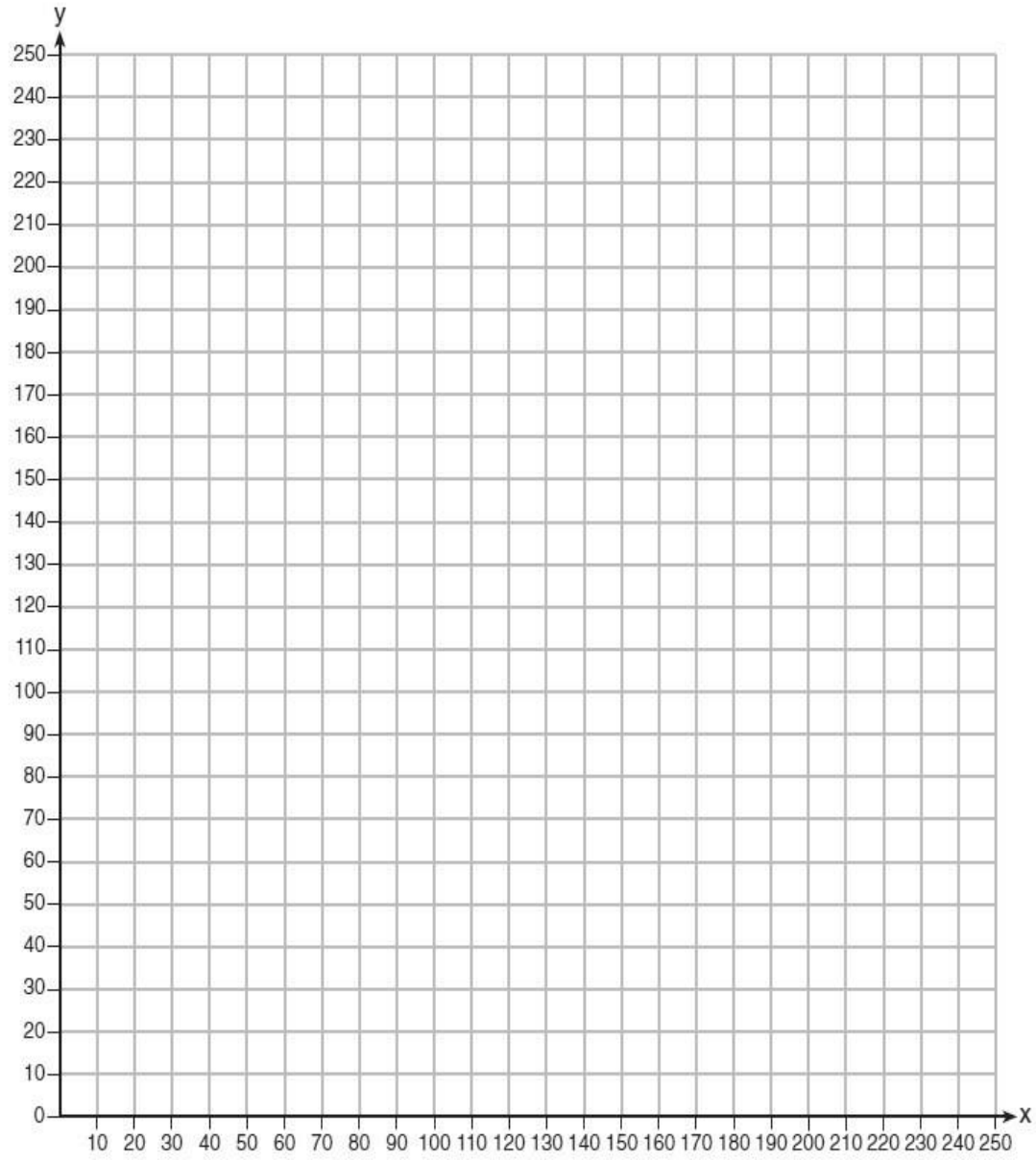
PART C: List three solutions to describe how Isaac can meet his goals for any given week.

PART D: If Isaac spends 9 hours lifeguarding and 8 hours coaching baseball, is that a solution? Explain.

2) The Reel Good Cinema is conducting a mathematical study. In its theater, there are 200 seats. Adult tickets cost $12.50 and child tickets cost $6.25. The cinema's goal is to sell at least $1500 worth of tickets for the theater.

Part A: Write a system of linear inequalities that can be used to find the possible combinations of adult tickets, *x*, and child tickets, *y*, that would satisfy the cinema's goal.

Part B: Graph the solution to this system of inequalities on the set of axes below. Label the solution with an *S*.



Part C: Marta claims that selling 30 adult tickets and 80 child tickets will result in meeting the cinema's goal. Explain whether she is correct or incorrect, based on the graph drawn.