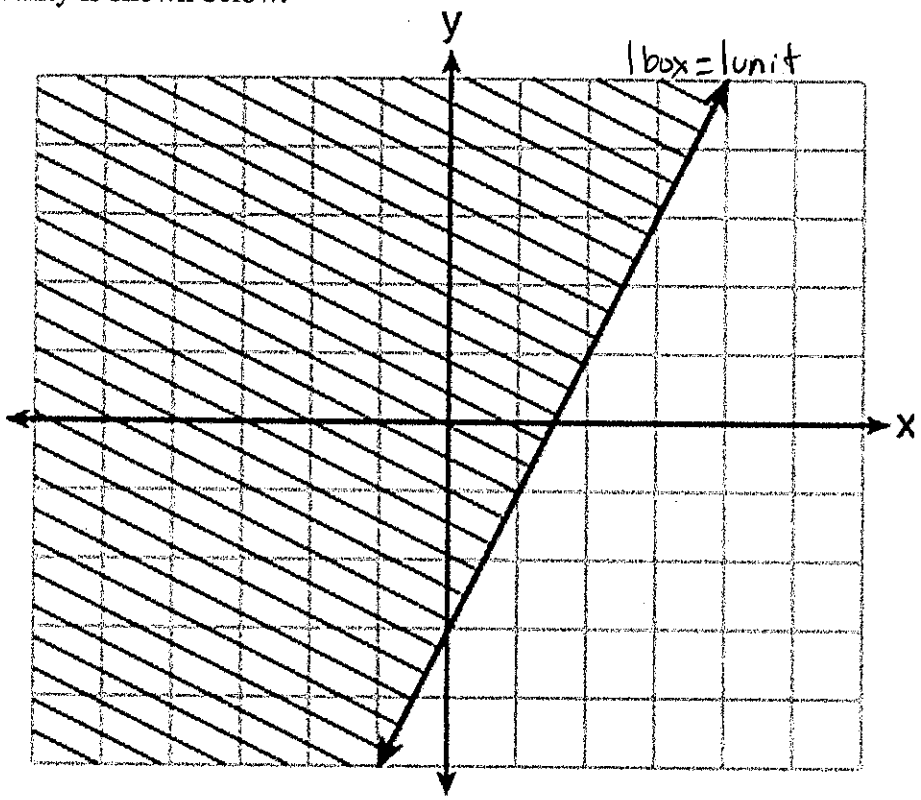
#676

Name_____ Date _____
Math 8A

# System of Linear Inequalities Word Problems
## Classwork Day 2

① The graph of an inequality is shown below.




a) Write the inequality represented by the graph.

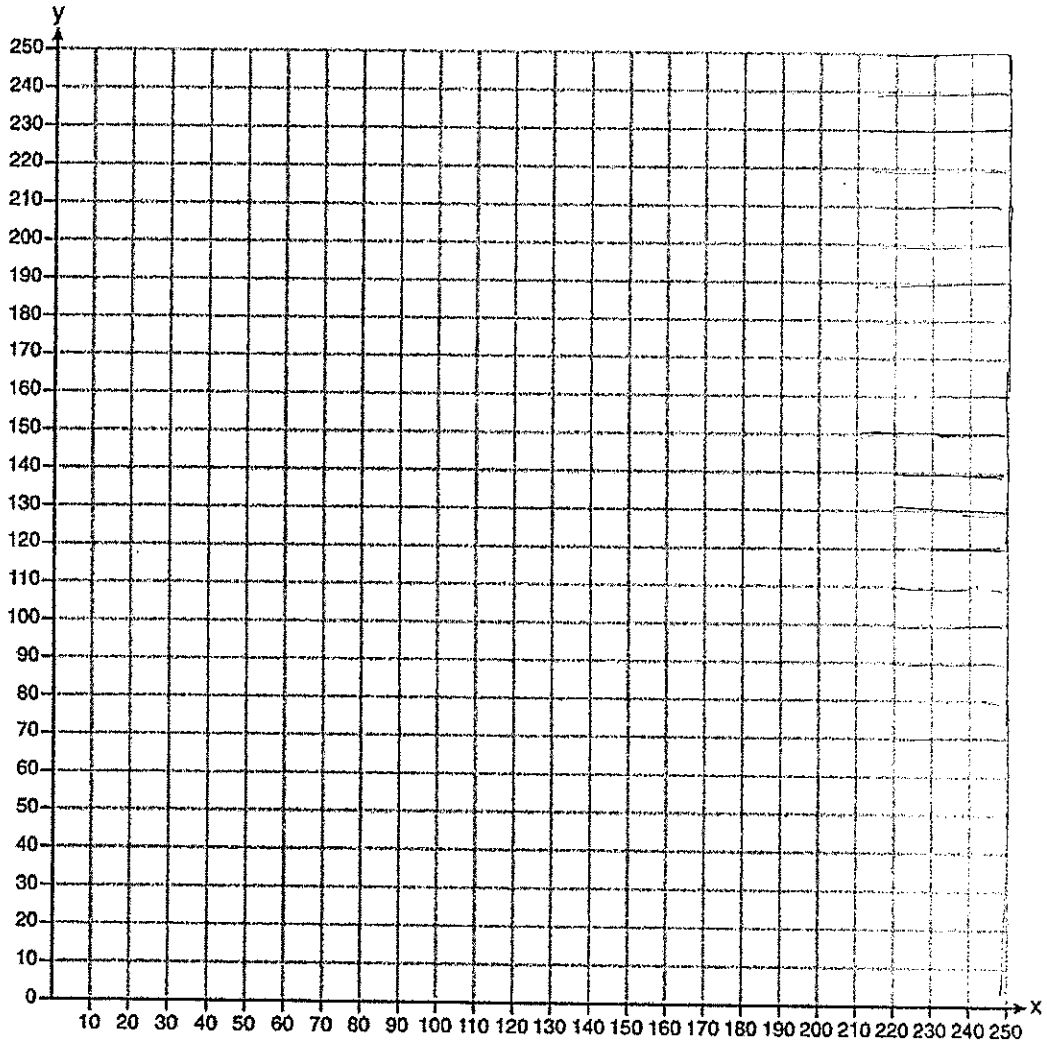
b) On the same set of axes, graph the inequality $x + 2y < 4$.

c) The two inequalities graphed on the same set of axes form a system. Oscar thinks the point (2,1) is in the solution set for this system of inequalities. Determine and state whether you agree or disagree with Oscar. Explain your reasoning.

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.

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.

Graph the solution to this system of inequalities on the set of axes. Label the solution with an S.

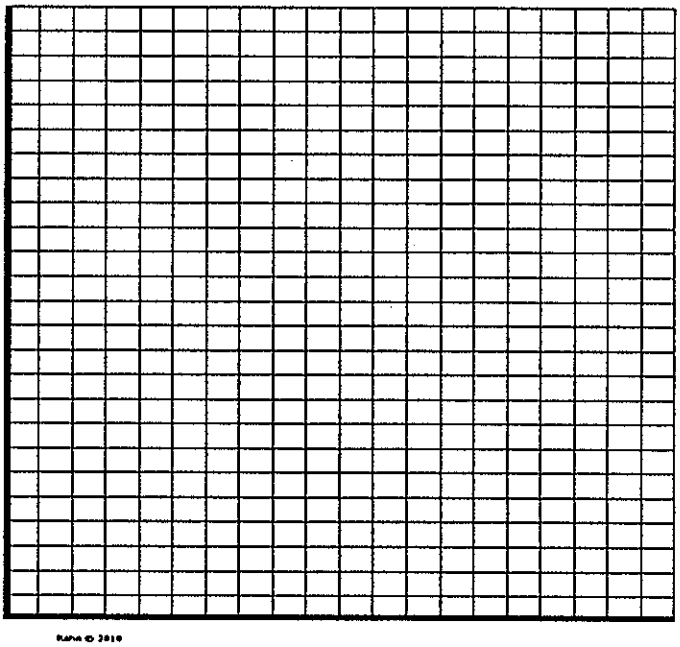



Marta claims that selling 30 adult tickets and 80 child tickets will result in meeting the cinema's goal. Explain whether she is correct or incorrect, based on the graph drawn.

(3) Suppose you have two jobs, babysitting, which pays $5 per hour, and bagging groceries, which pays $6 per hour. You can work no more than 20 hours each week, but you need to earn at least $90 per week.

Define the variables and write the systems of inequalities that represents this situation.

Based off the system above, graph the inequalities and shade the solution set.

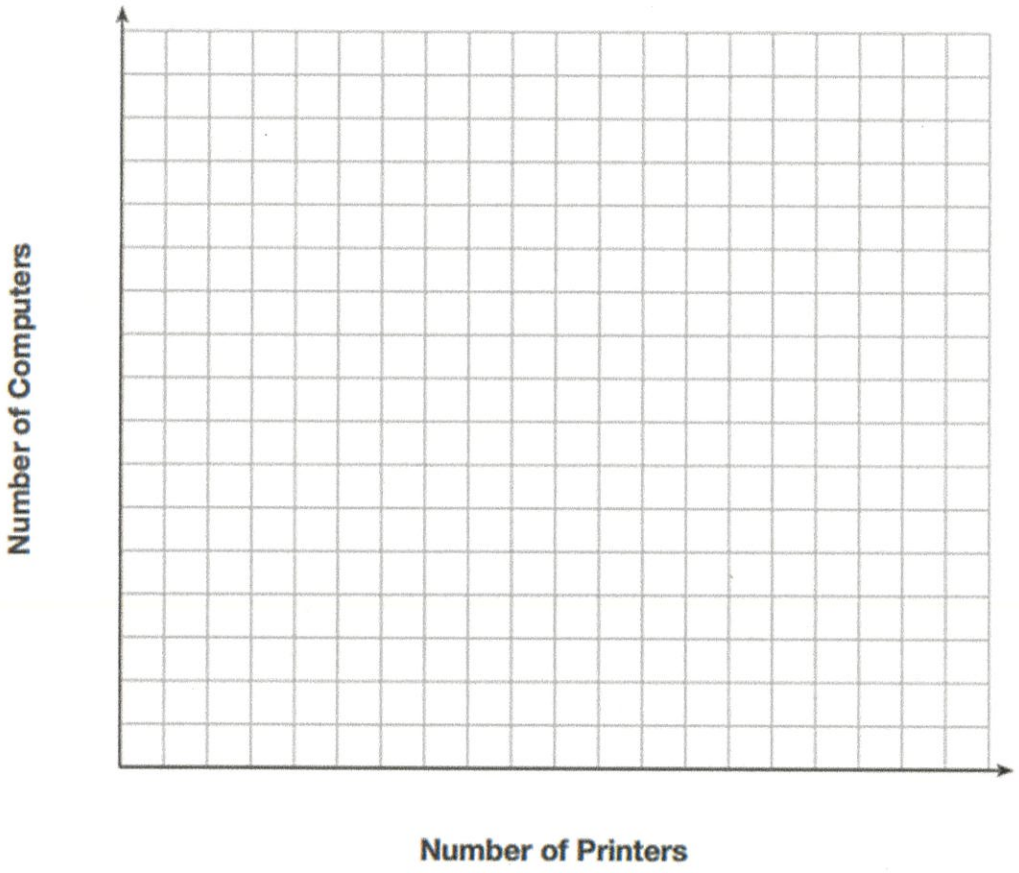


What does the shaded region represent? (in the context of the problem)

4

An on-line 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 15 items per day.

On the set of axes below, graph a system of inequalities that models these constraints.




Determine a combination of printers and computers that would allow the electronics store to meet all of the constraints. Explain how you obtained your answer