Notes are completed from this problem....

Games and Puzzles

Read all parts of the extended-response question before you begin. Write your answers to the extended-response question on the answer page. For each extended-response question, use the grid provided to create any required charts or graphs. If a question does not require a chart or graph, write your written response over the grid lines.

The Math Club members are selling games and puzzles. They make a profit of $10 on a game and $8 on a puzzle. They would like to make at least $400. They can sell at most 60 items.

a. Write a system of inequalities that represents the number of puzzles and games that they will sell given the conditions described (# of games, # of puzzles).

b. Graph the inequalities you found in part (a). (Use an interval of 5 on both axes.)

c. Find three possible solutions explain what one of these coordinate pairs tells you about the situation.

BE SURE TO LABEL YOUR RESPONSES (a), (b), AND (c).

_____

Rubric

a)	Correctly writing the inequality for the number of items	½ point
	Correctly writing the equation for the value of the items	½ point
b)	Correctly graphing both inequalities on the same coordinate grid	1½ points
c)	Correctly stating three possible solutions to the system	½ point
	Thoroughly explaining what one of these solutions tell about the situation	1 point

_____

This problem is worth 10 points.
Score of 4: You will have a 10/10.
Score of 3.5 or 3: You will have a 9/10.
Score of 2.5 or 2: You will have a 7.5/10.
Score of 0.5, 1, or 1.5: You will have a 5/10.
Score of 0: You will have a 1/10.
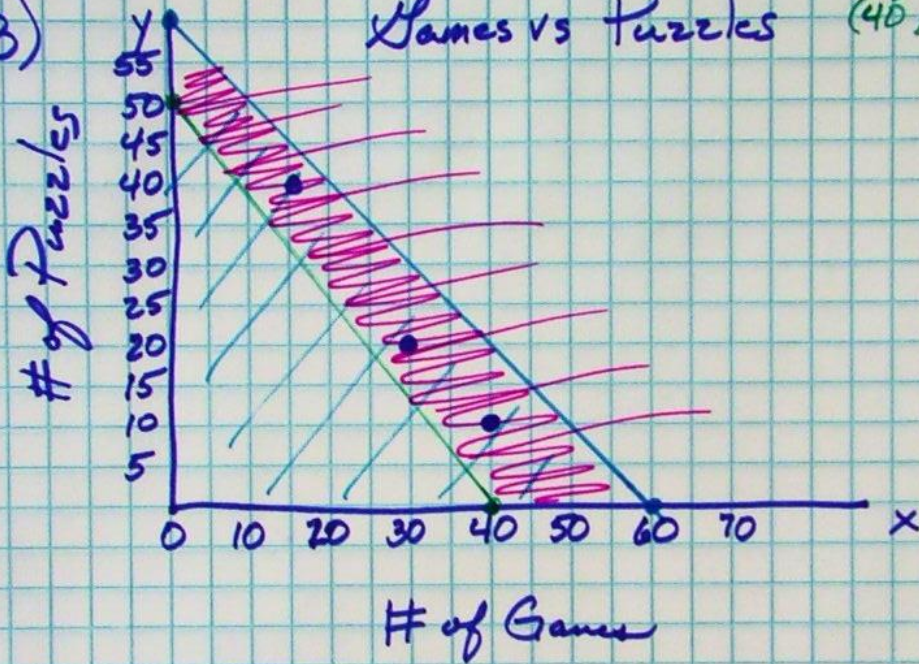No attempt: You will have a 0/10

Notes…

Games & Puzzles

A)   x : # of games $x + y \leq 60$ (0, 60)
         y : # of puzzles $10x + 8y \geq 400$ (60, 0)
                                                        (0, 50)
B)   Games vs Puzzles   (40, 0)

# of Puzzles
# of Games

C)   ((40, 10))   (30, 20)   (15, 40)
              ↑

40 Games & 10 puzzles could be
sold to ~~make~~ less than 60 items
        total
& make at least $400

$40 \cdot 10 + 10 \cdot 8$
$400 + 80$
480

Homework assignment…

What Do You Call a New Movie That Is Just Like an Old Movie?

Write and graph a system of inequalities that models the situation. Circle the number-letter pair for each ordered pair that is a solution. Write the letter in the matching numbered box at the bottom.
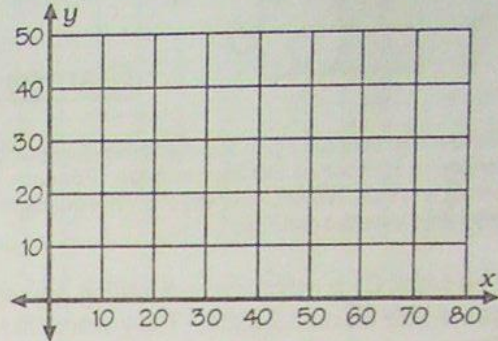
Situation 1. SOMETHING FISHY.

The owner of Fred's Fish Market orders cod and salmon. He wants to buy at least 50 pounds of fish but cannot spend more than $300. Cod is $4 per pound and salmon is $7 per pound.

Let x = number of pounds of cod
Let y = number of pounds of salmon

inequality #1: _____

inequality #2: _____

Which of the following are solutions?

8·E (40, 15)   11·P (50, 18)   4·S (30, 20)   10·U (55, 8)   7·R (20, 35)

Situation 2. FLOWER POWER.

Mr. Bloom is designing a rectangular flower garden with a fence around it. He can use no more than 80 ft of fencing. He wants the width to be at least 5 ft and the length to be at least 20 ft. $P = 2\ell + 2w$
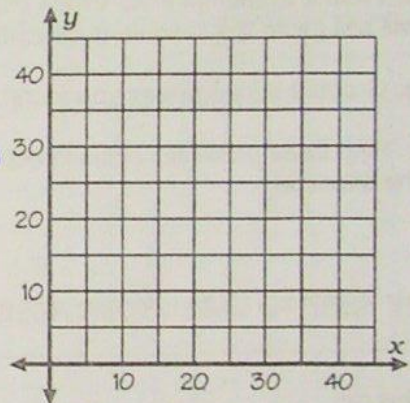
Let x = width of the garden (ft)
Let y = length of the garden (ft)

inequality #1: _____

inequality #2: _____

inequality #3: _____

Which of the following are solutions?

7·S (10, 23)   11·E (7, 30)   9·T (18, 25)   3·A (8, 35)   2·I (20, 20)

Situation 3. SPRING FLING. For 2 people

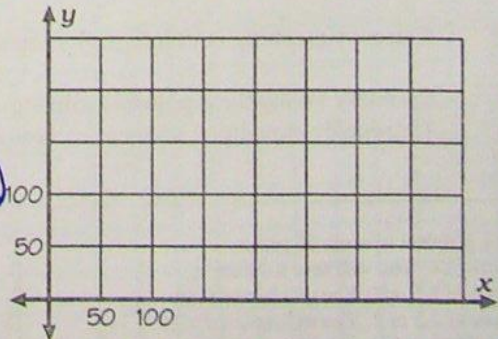Tickets for the Spring Dance cost $3 per person or $5 per couple. To cover expenses, at least $750 worth of tickets must be sold. However, no more than 400 people can fit in the gym where the dance is being held.

Let x = number of $3 tickets sold
Let y = number of $5 tickets sold (per 2 people)

inequality #1: _____

inequality #2: _____

Which of the following are solutions?

5·H (50, 110)   12·L (150, 70)   9·Q (280, 45)   6·U (300, 60)   3·T (0, 200)

1	2	3	4	5	6	7	8	9	10	11	12	13