What Do You Call a Pony That Doesn't Whinny?

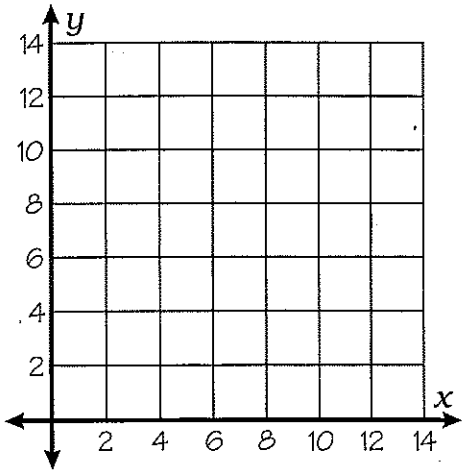
Write and graph an inequality that models the situation. Then answer the questions. Cross out the letters above each answer. Write the remaining letters in the spaces at the bottom.

Situation #1. Party Nuts.

Zark is buying peanuts and cashews for a party. He can spend no more than $24. Peanuts cost $2 per pound and cashews cost $3 per pound.

Let x = number of pounds of peanuts
Let y = number of pounds of cashews

inequality: _____



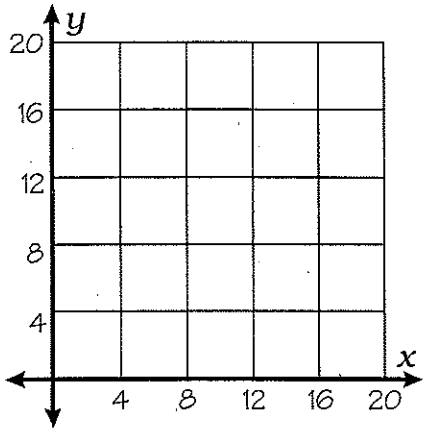
1. Which of the following is a solution of the inequality:
   a. (2,8) **b.** (4,6) **c.** (8,2)
2. What is the greatest number of pounds of peanuts that Zark can buy?
3. If x = 6 lb, what are all possible values of y?

Situation #2. Rub-a-dub-dub.

Kara is filling her bathtub. The cold water flows at a rate of 4 gal/min. The hot water flows at a rate of 3 gal/min. Kara wants no more than 60 gal of water in the tub.

Let x = time that cold water is turned on
Let y = time that hot water is turned on

inequality: _____



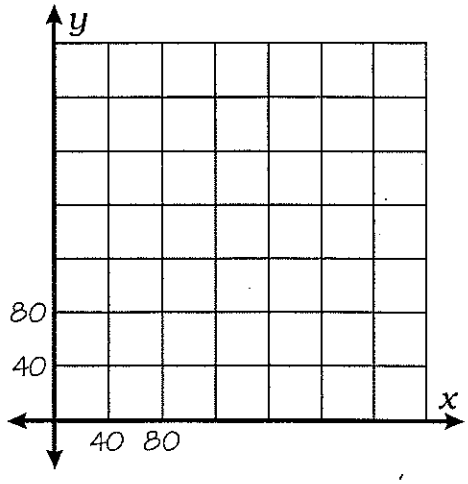
4. Which of the following is a solution of the inequality:
   a. (5,16) **b.** (10,4) **c.** (12,5)
5. How many minutes will it take to get 60 gal of water if only cold water is turned on?
6. If x = 3 min, what are all possible values of y?

Situation #3. Do You Wanna Dance?

Student Council is selling tickets to the Valentine Dance. Tickets cost $5 per person or $8 per couple. To cover expenses, at least $1200 worth of tickets must be sold.

Let x = number of $5 tickets sold
Let y = number of $8 tickets sold

inequality: _____



7. Which of the following is a solution of the inequality:
   a. (160,40) **b.** (40,160) **c.** (80,80)
8. How many $8 tickets must be sold if no $5 tickets are sold?
9. If x = 80 tickets, what are all possible values of y?

AP	AL	OT	B	IT	OO	T	HE	L
$0 \le y \le 16$	(80,80)	12	150	$y \ge 120$	(8,2)	(5,16)	15	$0 \le y \le 6$
EH	**R**	**O**	**AR**	**TS**	**ON**	**S**	**E**	**AT**
$0 \le y \le 12$	$y \ge 100$	(12,5)	14	(40,160)	(10,4)	180	(4,6)	$0 \le y \le 4$

Whatzup Toyz

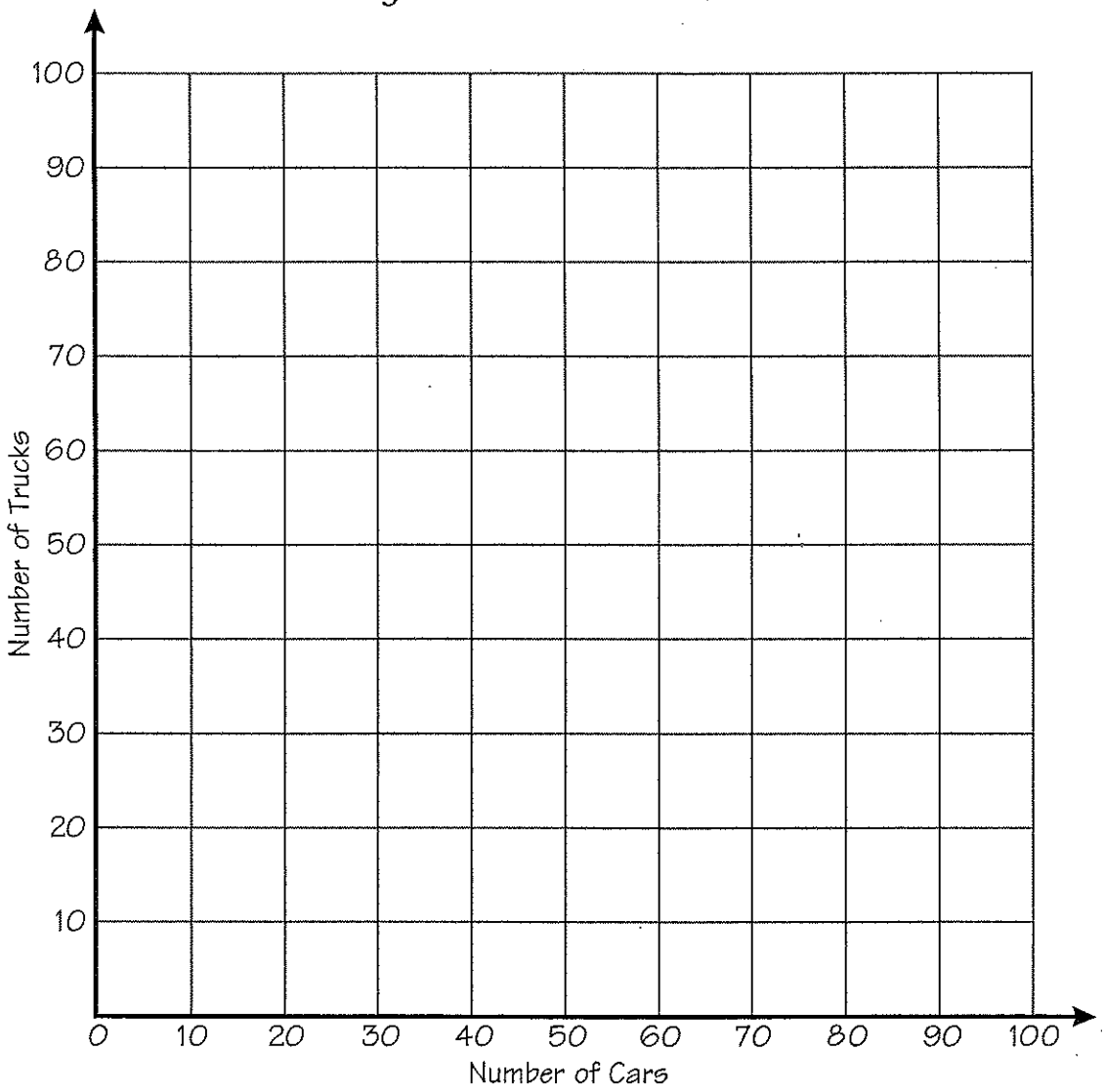
Whatzup Toyz is a small toy company that specializes in toy cars and toy trucks. The people at Whatzup Toyz are confident they can sell all the toy cars and trucks they make. But there are *two contraints* that limit their production today:

WHEELS: Each car needs 4 wheels. Each truck needs 6 wheels. Whatzup Toyz has 360 wheels in stock.

SEATS: Each car needs 2 seats. Each truck needs 1 seat. Whatzup Toys has 100 seats in stock

Write two inequalities. Then find the intersection of these inequalities to show all combinations of cars and trucks that Whatzup Toyz can make with the two constraints given.

Let x = number of cars
y = number of trucks



EXTRA Suppose the profit on each toy car or truck sold is $1.00. How many cars and how many trucks should Whatzup Toyz make in order to maximize profit?