

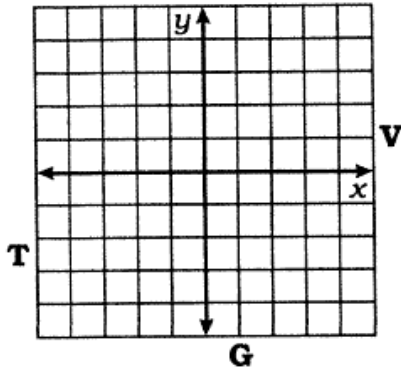
8.3 Systems of Inequalities

Draw your final graphs on this piece of paper, show all other work on a separate piece.

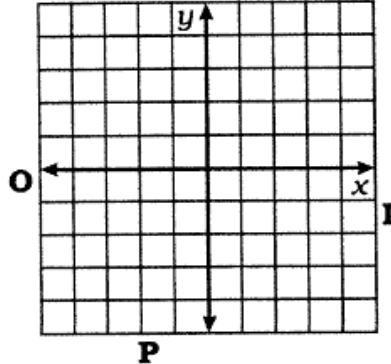
Which Member of Fred Ferd's Family Thinks He's a Pen?

Show the solution region for each system with crosshatching or shading. The crosshatching or shading, if extended, would cover a letter. Write this letter in each box with the exercise number.

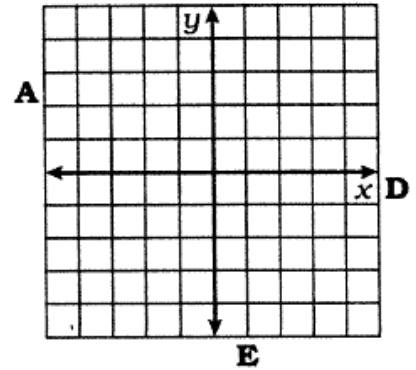
1. $y \geq \frac{3}{4}x - 2$
 $y \leq 1$



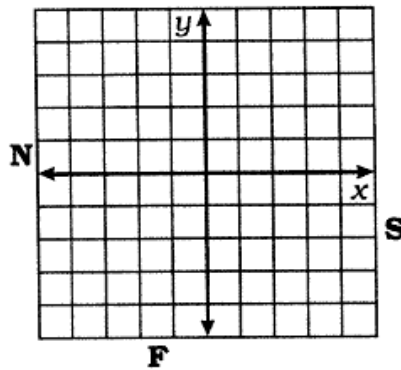
2. $y \geq -2x - 3$
 $y \leq \frac{1}{3}x + 2$



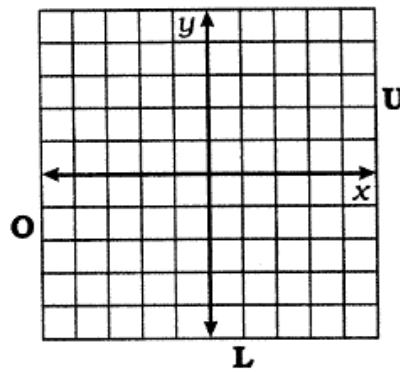
3. $y < \frac{3}{2}x + 3$
 $y < -x + 1$



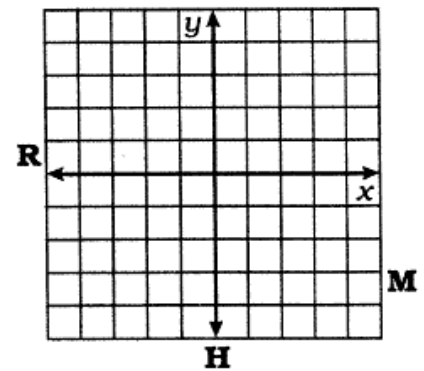
4. $y \leq x$
 $5x + 3y > -6$



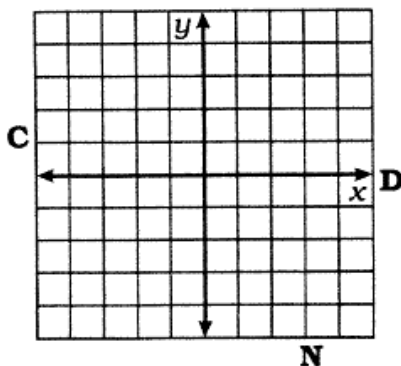
5. $y + 3 > 0$
 $-2x - 5y \geq 5$



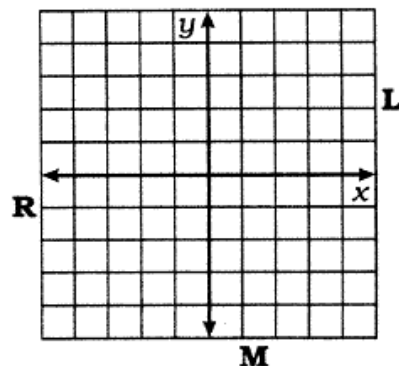
6. $x < 2$
 $x - 2y > 6$



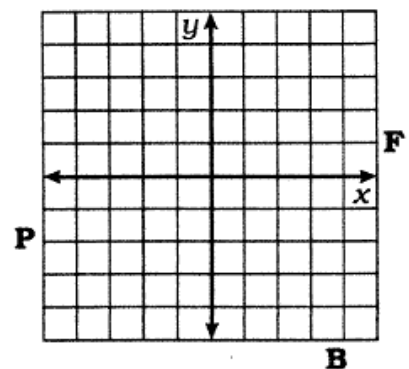
7. $8x + 12y < 24$
 $35x - 20y \leq 80$



8. $10x + 10y \leq 30$
 $y - 3x > 0$



9. $y + 2 \leq 0$
 $2 - x \leq 0$



6	2	4	9	2	7	9	8	5	1	6	3	8
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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 constraints* that limit their production today:

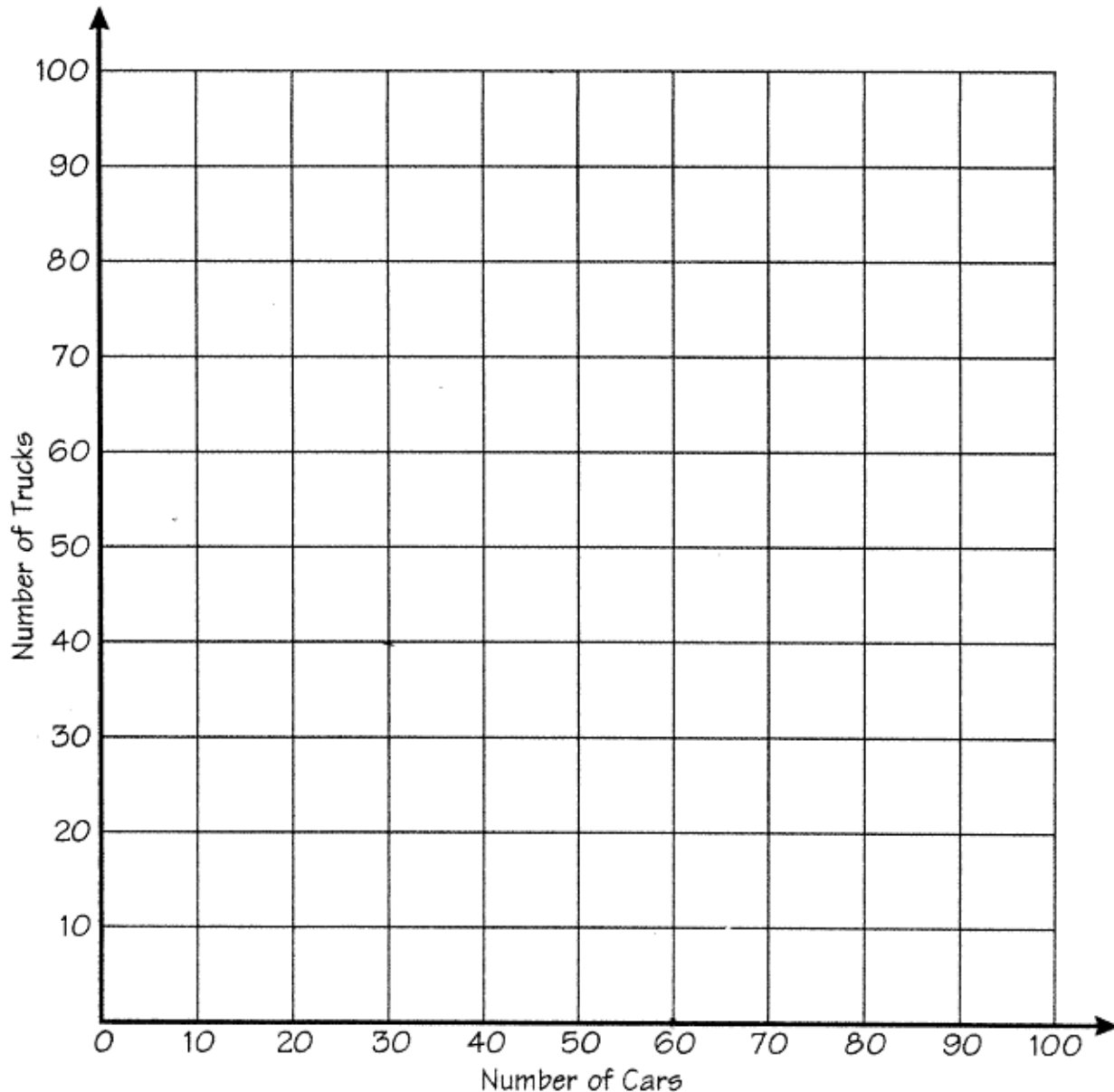
WHEELS: Each car needs 4 wheels. Each truck needs 6 wheels.
Whatzup Toyz has 360 wheels in stock.

SEATS: Each car needs 2 seats. Each truck needs 1 seat.
Whatzup Toyz 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?