

Mr. Nguyen is boycotting 7-11 and will buy his candy at Bulk Barn.

Coke bottles cost \$1.50 per 100g

Gummi worms cost \$1.00 per 100g

Mr. Nguyen has \$10 to spend

-- Give one scenario of the candies that Mr. Nguyen can buy without going over budget

3 x 100g of coke bottles -->  $3 \times 1.50 = 4.50$

2 x 100g of gummi worms -->  $2 \times 1.00 = 2.00$

Total: \$6.50. YES. It's under budget

# Systems of Linear Inequalities

Consider the previous example:

Let  $x$  be the number of grams of coke bottles

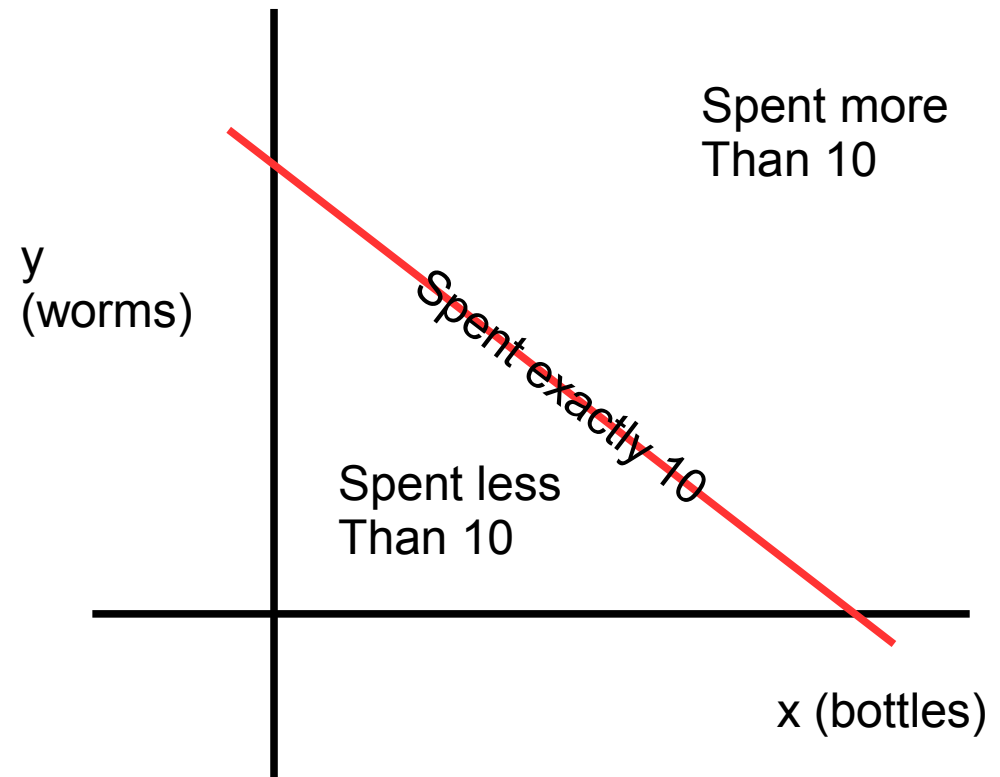
Let  $y$  be the number of grams of gummi worms

Our budget is \$10

$$1.50x + 1.00y = 10$$

Money spent on  
Coke bottles

Money spent  
worms



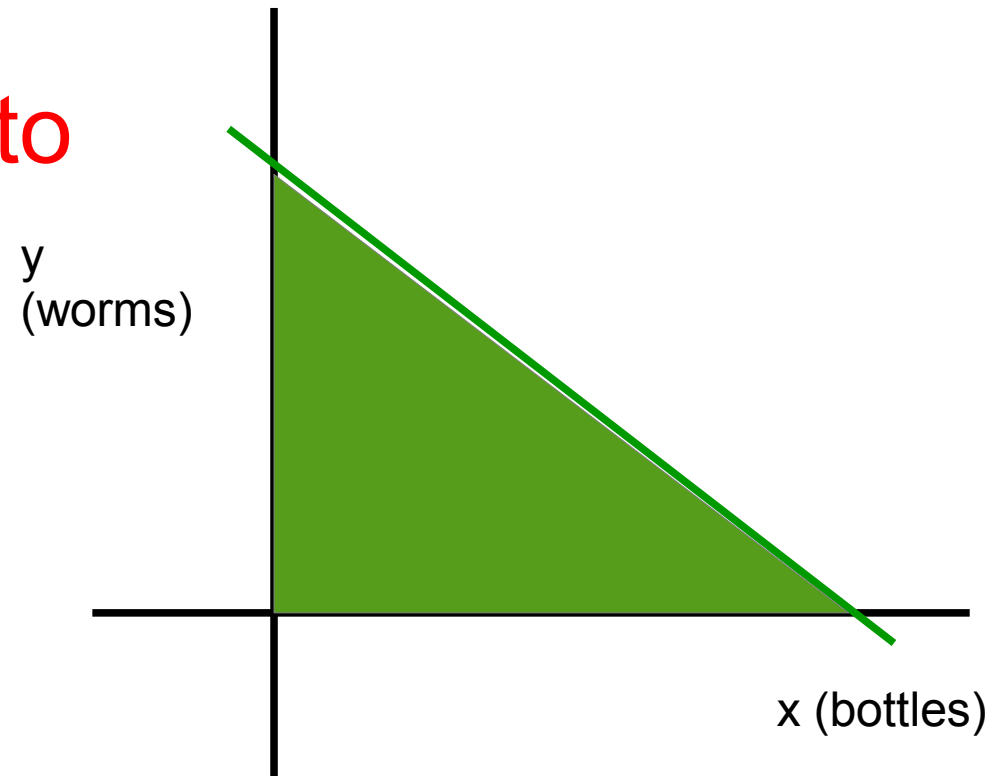
# Systems of Linear Inequalities

On the TI-83, we graph  
 $y = 10 - 1.5x$  which represents

$$1.5x + 1.0y < 10$$

Will change the graph to  
show a region

Anything in that region  
is acceptable

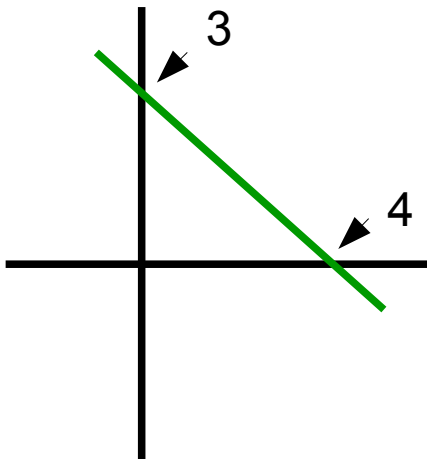


Let's revisit what an inequality means...

$X$  is a number... infinite possibilities

$X = 5$  ... we narrow it down to 1 possibility

$X < 5$  ... back to infinite possibilities



$$y = (-3/4)x + 3$$

There are infinite solutions to this line... any point on the line is a solution