

# Lesson 25: Solving Problems with Systems of Linear Inequalities in Two Variables

## Cool Down: Widgets and Zurls

A factory produces widgets and zurls. The combined number of widgets and zurls made each day cannot be more than 12. The maximum number of widgets the factory can produce in a day is 4.

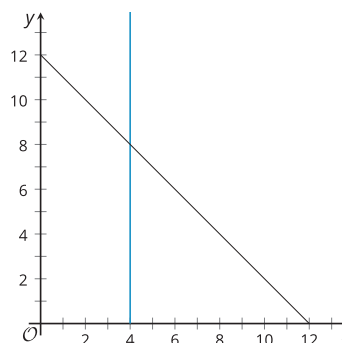
Let  $x$  be the number of widgets and  $y$  the number of zurls.

1. Select **all** the inequalities that represent this situation.

- a.  $x < 4$
- b.  $x \leq 4$
- c.  $x > 4$
- d.  $x + y > 12$
- e.  $x + y \leq 12$

2. Here are graphs of  $x = 4$  and  $x + y = 12$ .

Complete the graphs (by shading regions and adjusting line types as needed) to show all the allowable numbers of widgets and zurls that the factory can produce in one day.



3. Does each ordered pair represent an allowable combination of widgets and zurls produced in one day?

(4, 5)

(11, 1)

(4, 12)

(3, 9)