

## Lesson 7-8

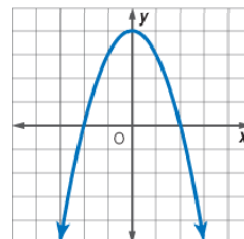
## Example 1

Determine if the ordered pair is a solution.

a.  $(6, -3)$   
 $y = \frac{-2}{3}x + 1$

b.  $(-2, 7)$   
 $y = 5 - |x|$

c.  $(-1, 2)$



## Solution

a. Test the point  $(6, -3)$  in the equation.

$$y = \frac{-2}{3}x + 1 \quad \square \quad -3 = \frac{-2}{3}(6) + 1$$

$$-3 = -4 + 1$$

$$-3 = -3 \quad \text{True}$$

Therefore, the ordered pair  $(6, -3)$  is a solution of the equation.

b. Test the point  $(-2, 7)$  in the equation.

$$y = 5 - |x| \quad \square \quad 7 = 5 - |-2|$$

$$7 = 5 - 2$$

$$7 \neq 3 \quad \text{False}$$

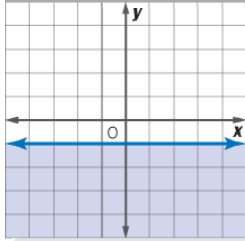
Therefore, the ordered pair  $(-2, 7)$  is not a solution of the equation.

c. Locate the point  $(-1, 2)$  on the coordinate plane. The graph of the function does not go through this point, so  $(-1, 2)$  is not a solution of the equation.

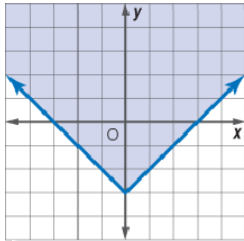
**Example 2**

State whether the ordered pair is a solution.

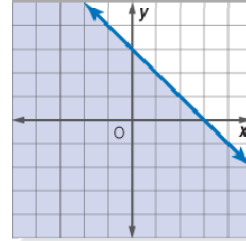
a.  $(0, 0)$



b.  $(-2, 2)$



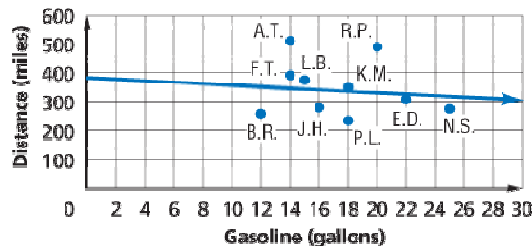
c.  $(4, 1)$

**Solution**

- a. The ordered pair  $(0, 0)$  is not a solution since the point is in the non-shaded region.
- b. The ordered pair  $(-2, 2)$  is a solution since the point is in the shaded region.
- c. The ordered pair  $(4, 1)$  is a not solution since the point is in the non-shaded region.

**Example 3**

**TRAVEL** In order to compare the fuel efficiency of the vehicles they drive, all of the people who work in a certain office have agreed to keep track of their gasoline purchases and number of miles they have driven between fill-ups. The data graphed represent gallons of gas purchased and number of miles driven. Each point is labeled with the person's initials. The line of best fit is drawn.



- Who drives the vehicle with the best fuel efficiency?
- Who drives the vehicle with the worst fuel efficiency?
- Zach drove 420 miles on 25 gallons of gas. Would his data be above, below, or on the line?

**Solution**

- A.T. gets the most miles per gallon. This point is farthest above the line of best fit.
- P.L. gets the least miles per gallon. This point is farthest below the line of best fit.
- The point representing Zach, (25, 420), would be above the line of best fit.