

Algebra: Linear Equations in Two Variables

Consider the equation $x + y = 8$

If $x = 3$ what is y ? (3 , ___)

If $x = 7$, what is y ? (7 , ___)

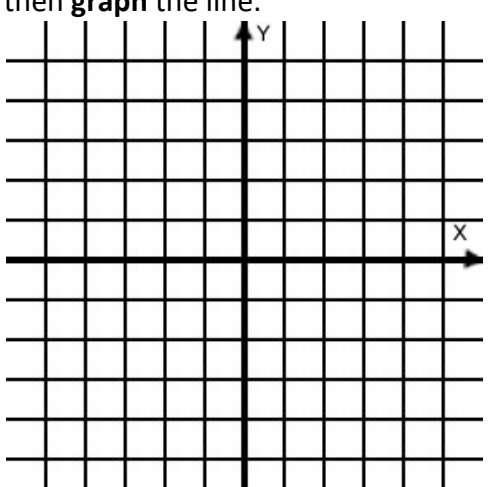
If $y = 6$, what is x ? (___ , 6)

“Ordered pairs” of values (x, y) are considered solutions to the equation because they make the equation TRUE.

TRY:

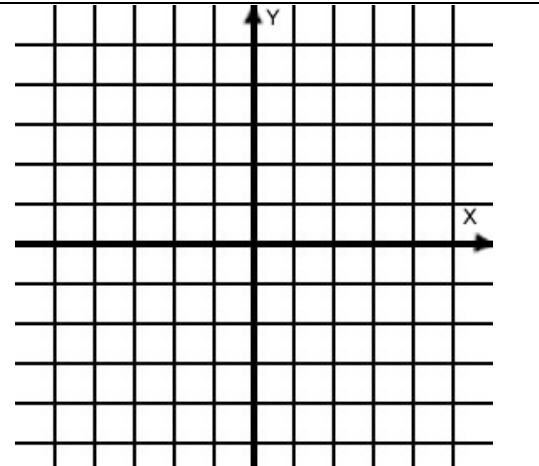
Which of the following ordered pairs (3, 1), (-1, 3), (2, 3), (-2, 6) and (1, 3)

are solutions for the equation $x + y = 4$?

| | | | | | | | | | | | | | | | | |
|---|----------|----------------------------|--|---|---|----------------------------|---|---|----------------------------|--|---|----------------------------|---|--|----------------------------|--|
| <p>Find four solutions, ordered pairs, for the equation: $x + 2y = 6$ and complete the table.</p> <table style="margin-left: 20px;"> <tr> <td style="border-right: 1px solid black; padding: 5px;"><u>X</u></td> <td style="padding: 5px;"><u>Y</u></td> <td></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">?</td> <td style="padding: 5px;">0</td> <td>If $y = 0$, what is x?</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">0</td> <td style="padding: 5px;">?</td> <td>If $x = 0$, what is y?</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;"></td> <td style="padding: 5px;">2</td> <td>If $y = 2$, what is x?</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">4</td> <td style="padding: 5px;"></td> <td>If $x = 4$, what is y?</td> </tr> </table> <p style="margin-left: 20px;">(, 0) (0 ,) (, 2) (4 ,)</p> | <u>X</u> | <u>Y</u> | | ? | 0 | If $y = 0$, what is x ? | 0 | ? | If $x = 0$, what is y ? | | 2 | If $y = 2$, what is x ? | 4 | | If $x = 4$, what is y ? | <p>Plot the ordered pair solutions for $x + 2y = 6$, then graph the line.</p>  |
| <u>X</u> | <u>Y</u> | | | | | | | | | | | | | | | |
| ? | 0 | If $y = 0$, what is x ? | | | | | | | | | | | | | | |
| 0 | ? | If $x = 0$, what is y ? | | | | | | | | | | | | | | |
| | 2 | If $y = 2$, what is x ? | | | | | | | | | | | | | | |
| 4 | | If $x = 4$, what is y ? | | | | | | | | | | | | | | |

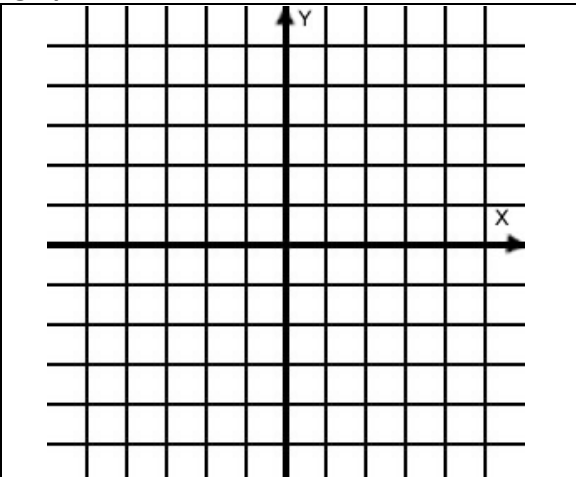
Complete the table. **Plot** the ordered pair solutions, then **graph** the line.

| | | | |
|---------------|---|---|--|
| $4x - 2y = 8$ | X | Y | |
| | 3 | 2 | |
| | 2 | | |
| | 1 | | |
| | 0 | | |



Complete the table. **Plot** the ordered pair solutions, then **graph** the line.

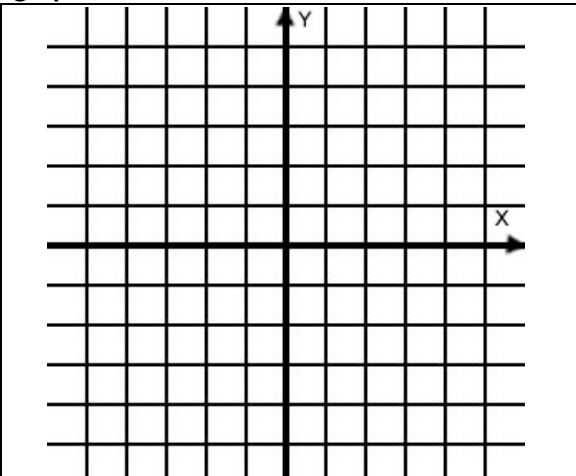
| | | |
|------------------------|----|---|
| $y = \frac{1}{2}x - 4$ | X | Y |
| | 4 | |
| | 2 | |
| | 0 | |
| | -2 | |



Complete the table. **Plot** the ordered pair solutions, then **graph** the line.

| | | |
|---------|----|---|
| $y = 3$ | X | Y |
| | 4 | |
| | 2 | |
| | 0 | |
| | -2 | |

What is always true about y?

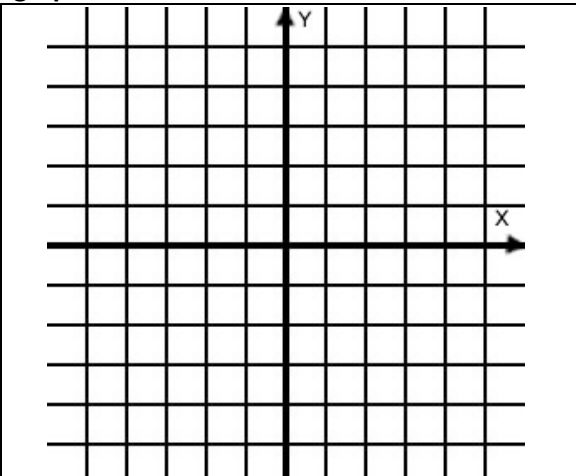


TRY:

Complete the table. **Plot** the ordered pair solutions, then **graph** the line.

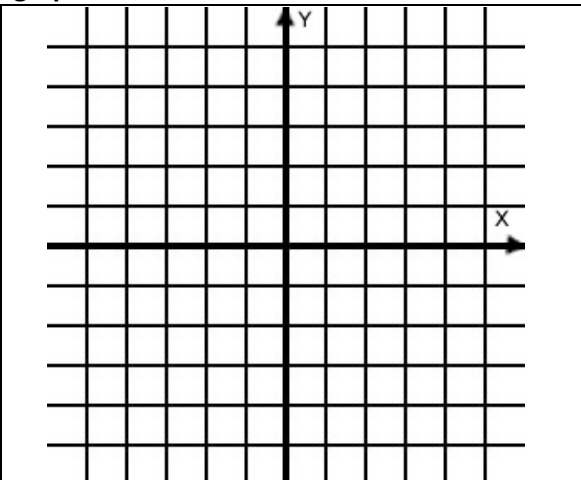
| | | |
|----------|---|----|
| $x = -2$ | X | Y |
| | | 4 |
| | | 2 |
| | | 0 |
| | | -2 |

What is always true about x?



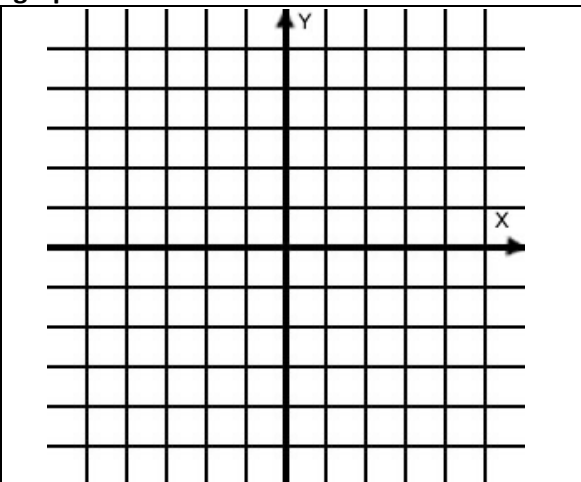
Complete the table. **Plot** the ordered pair solutions, then **graph** the line.

| | | |
|--------------|---|---|
| $x - y = -3$ | X | Y |
| | | |
| | | |
| | | |
| | | |



Complete the table. **Plot** the ordered pair solutions, then **graph** the line

| | | |
|-----------|---|---|
| $y = -2x$ | X | Y |
| | | |
| | | |
| | | |
| | | |



Complete the table. **Plot** the ordered pair solutions, then **graph** the line

| | | |
|--------------|---|---|
| $2x - y = 6$ | X | Y |
| | | |
| | | |
| | | |
| | | |

