A statement involving the word AND is only true if:
BOTH parts are true.

A statement involving the word OR is true if:
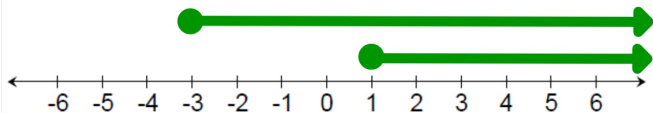- One of the statmens is true
- The other statement is true
  or
- Both statements are true

When you graph two inequalities connected with the word

AND

the final solution is:

The interval where the graphs OVERLAP

When you graph two inequalities connected with the word OR the final solution is:
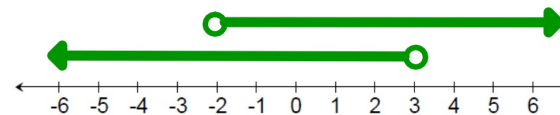
Anywhere the graph is shaded. (for either or both inequalities)

What is the solution to the above compound inequality using the word....
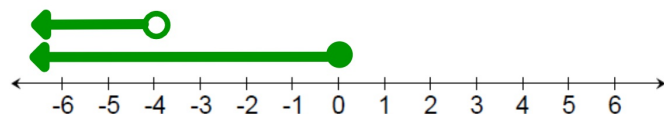
AND $X \geq 1$

OR $X \geq -3$

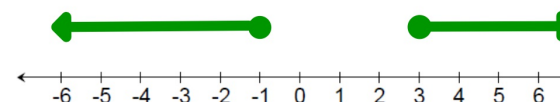What is the solution to the above compound inequality using the word....

AND $-2 < x < 3$

OR $\mathbb{R}$

What is the solution to the above compound inequality using the word....

AND $X < -4$

OR $X \leq 0$

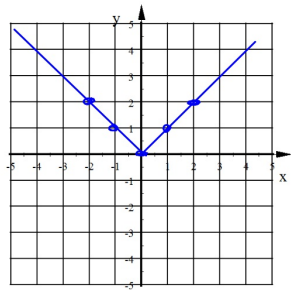What is the solution to the above compound inequality using the word....

AND NO SOL

OR $X \leq -1$ OR $X \geq 3$

Panel 1:

Graph this function: y=|x|

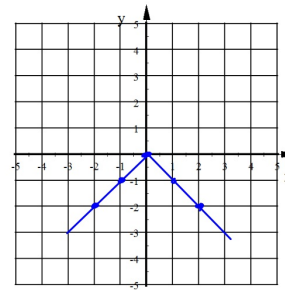| X	Y
-2	2
-1	1
0	0
1	1
2	2

Graph is a V-shape

Vertex is at (0,0)

Sides have a slope of 1 and -1

y=|x| is the Parent Absolute Value Function
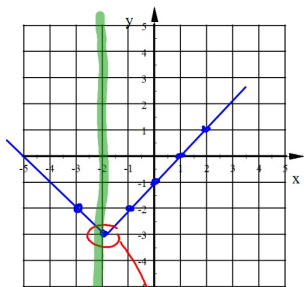
Opens up
Vertex at (0,0)
Sides have slope of 1 and -1

Panel 2:

What would the graph of y = -|x| look like?

Upside Down V

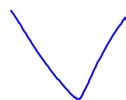it's y=|x| reflected over the x-axis.

X	Y
-2	-2
-1	-1
0	0
1	-1
2	-2

Panel 3:

Graph   y = |x+2| - 3

X	Y
-2	-3
-1	-2
0	-1
1	0
2	1
-3	-2

vertex

(-2, -3)

Panel 4:
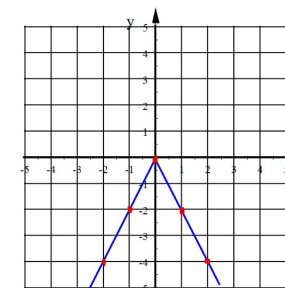
Graph y = -2|x|

Upside down

sides have a slope of 2 and -2

X	Y
-2	-4
-1	-2
0	0
1	-2
2	-4

Graph of y = a|x - h| + k

a:
 • Vertical stretch or shrink factor (slope of sides).
 • If a<0, x-axis reflection (upside down)

h:
 • Horizontal translation
 • x-h   h units right
 • x+h   h units left

k:
 • Vertical translation
 • +k   k units up
 • -k   k units down