

AND

At 8:00pm tonight I will study and I will listen to music.

The above statement will be true if I do what at 8:00pm?

- Only if I do BOTH study and listen to music.

OR

At 8:00 pm tonight I will have a snack or I will watch TV.

The above statement will be true if I do what at 8:00pm?

- If I just have a snack
- If I just watch TV
- If I do BOTH have a snack and watch TV

When compound inequalities are true

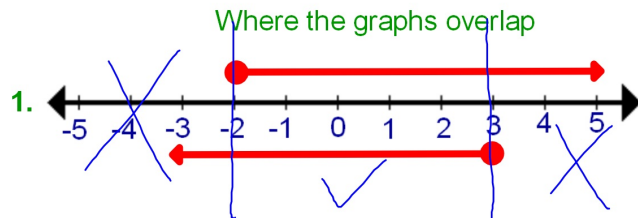
AND

Only when BOTH inequalities are true at the same time.

OR

When one ineq is true or
When the other ineq is true or
When both ineq are true.

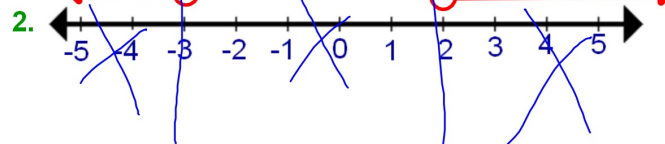
What range of values are solutions to BOTH inequalities at the same time?



Where the graphs overlap

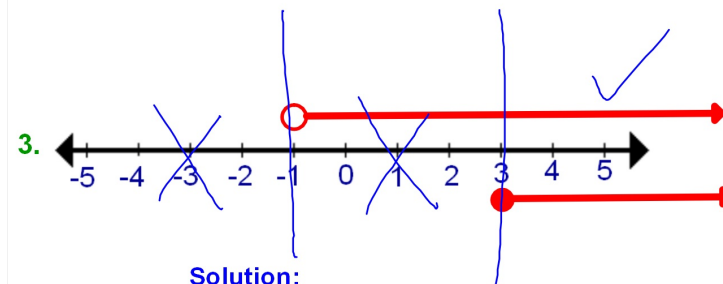
Solution:

$$-2 \leq x \leq 3$$



NO SOL

What range of values are solutions to BOTH inequalities at the same time?



Solution:

$$x \geq 3$$

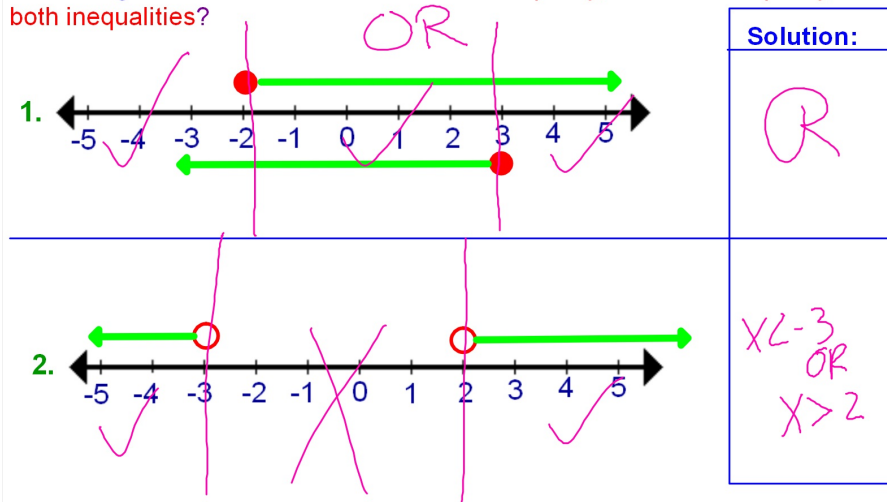
The following are solutions to compound inequalities. What do they really mean?

AND

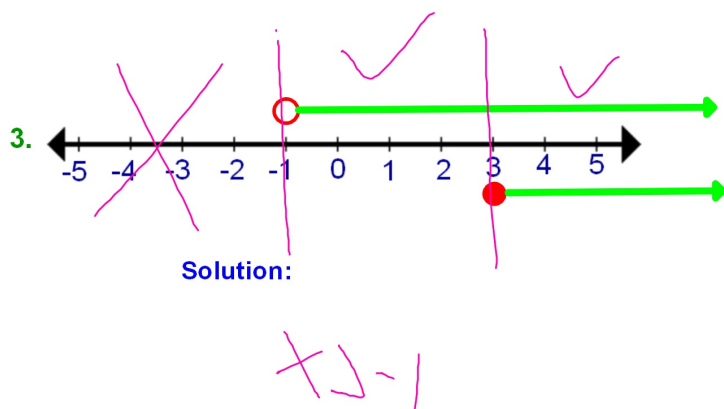
"Simplified Solution"

1. $x > 4$ and $x < 10$	$4 < x < 10$
2. $Q < -3$ and $Q > 5$	NO SOL
3. $R \geq 1$ and $R \geq 6$	$R \geq 6$
4. $T < -2$ and $T \leq 8$	$T < -2$

What range of values are solutions to one inequality, the other inequality, or both inequalities?



What range of values are solutions to one inequality, the other inequality, or both inequalities?



The following are solutions to compound inequalities. What do they really mean?

OR

"Simplified Solution"

1. $x > 4$ or $x < 10$	$x < 4$ OR $x > 10$
2. $Q < -3$ or $Q > 5$	$Q < -3$ OR $Q > 5$
3. $R \geq 1$ or $R \geq 6$	$R \geq 1$
4. $T < -2$ or $T \leq 8$	$T < 8$