Algebra 1 5.4
Solve compound inequalities (and/or)
Graph solution sets of compound inequalities

inequality
greater than
less than
Venn diagram
intersection
union
compound inequality

 To ride certain roller coasters, you must be at least 52 inches tall, and your height cannot exceed 72 inches. If h represents the height of a rider, we can write two inequalities to represent this.

Tat lust

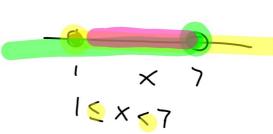
union - all Shaped

You need to know the code...

Example 1 Solve and Graph an Intersection

Solve $-2 \le x - 3 < 4$. Then graph the solution set.

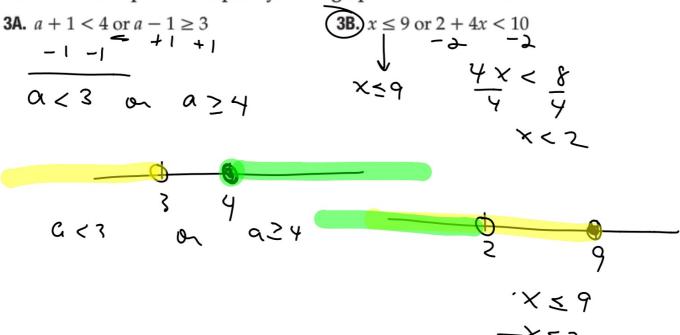
Write 2 separate inequalities...



2 Inequalities Containing *or* Another type of compound inequality contains the word *or*. A compound inequality containing *or* is true if at least one of the inequalities is true. Its graph is the **union** of the graphs of two inequalities.

Whiteboards

Solve each compound inequality. Then graph the solution set.



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Real-World Example 2 Write and Graph a Compound Inequality

20 Hertz and 20,000 Hertz. Write and graph a compound inequality that describes the frequency of sounds humans cannot hear.

Whiteboard practice Solve + graph
$$3B+2 < 5B-6 \le 2B+9$$
 $3B+2 < 5B-6 \le 2B+9$ $B \le 5$ $B \le 5$ $B \le 5$

$$5n-1 < -16$$
 on $-3n-1 < 18$
 -6.3 -3