Solving and Graphing Absolute Value Inequalities Notes

Steps:

1. Isolate the | |
2. Separate into two cases
3. Solve both cases
4. Graph both solutions on number line

Two Cases:

Case 1:
Keep it the same, drop the | |

Case 2:
Drop the | |
Switch the inequality
Switch the sign

Inverses Reminder:

Addition and Subtraction

Multiplication and Division

Examples:

$|2x - 4| > 6$

Case 1:

$2x - 4 > 6$

$2x >$

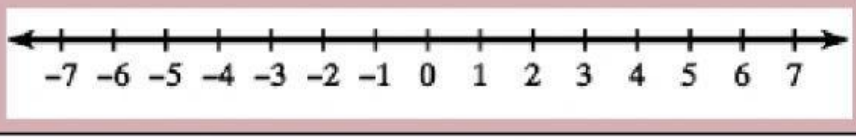
$x >$

Case 2:

$2x - 4 < -6$

$2x <$

$x <$



Graphing Tool Kit:

$2|5x + 10| \leq 40$

$|5x + 10| \leq$

Case 1:

$5x + 10 \leq$

$5x \leq$

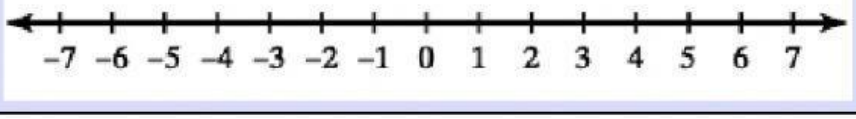
$x \leq$

Case 2:

$5x + 10 \geq$

$5x \geq$

$x \geq$



Graphing Tool Kit: