

Review of Solving Inequalities and Interval Notation:



Single Inequalities: Goal: Get x on the left and a number on the right, if possible.

1. $x + 8 > 4$

7. $5 > x$

2. $8x < 24$

8. $2x - 7 < 5x - 9$

3. $3x \geq -36$

9. $4(x - 3) \geq 9(2x + 7)$

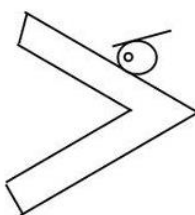
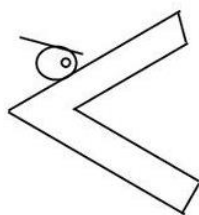
4. $5x + 13 \leq 28$

10. $2x + 7 < 2x + 9$

5. $-2x > 10$

11. $3(x - 1) \geq 3x + 9$

6. $-3x \leq -18$



Infinite Intervals				
Interval Notation	Set Notation	Graph	Type	
$[a, \infty)$	$\{x \mid x \geq a\}$		Closed	
(a, ∞)	$\{x \mid x > a\}$		Open	
$(-\infty, a]$	$\{x \mid x \leq a\}$		Closed	
$(-\infty, a)$	$\{x \mid x < a\}$		Open	

Double Inequalities: Goal: Get x in the middle with smaller number on the left and larger number on the right, if possible.

1. $-2 < x < 10$

7. $-1 \leq -2x - 7 \leq 1$

2. $-6 < x + 6 \leq 8$

8. $-\frac{1}{2} < \frac{1}{4}x - 3 \leq \frac{1}{2}$

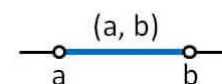
3. $1 \leq 3x + 4 < 19$

9. $-3 < \frac{3x - 6}{4} \leq 6$

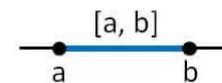
Interval Notation

4. $5 \geq x \geq 1$

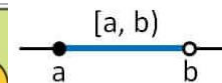
10. $3 < x < -6$



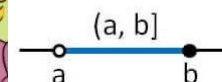
$a < x < b$, Open interval



$a \leq x \leq b$, Closed interval



$a \leq x < b$, Semi Open interval



$a < x \leq b$, Semi Open interval

5. $-2 < -2x < 4$

6. $3 < -3x \leq 6$

