

MATH 120-020 Support 6 Solving Linear Inequalities

Solve the following linear equations.

1. $6x = -18$

2. $-8x = 24$

3. $9(2x + 1) = 9$

4. $-2x - 11 = -3$

Solving Linear Inequalities: Solve like an equation (see above), EXCEPT if you multiply or divide both sides by a negative number, you must reverse the direction of the inequality symbol.

Solve the inequality and write the solution a) as an inequality statement, b) in interval notation and c) graph

5. $6x < -18$

6. $-8x \leq 24$

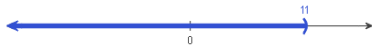

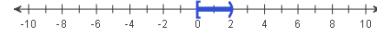
7. $9(2x + 1) < 9$

8. $-10x \geq -30$

9. $-2x - 11 < -3$

Inequality Symbol	Meaning	Open or Closed	Endpoint
$>$	greater than	open	(parenthesis
\geq	greater than or equal to	closed	[bracket
$<$	less than	open	(parenthesis
\leq	less than or equal to	closed	[bracket

Complete the table.

Inequality Statement	Interval Notation	Graph
1. $x > 2$		
2. $x \leq -1$		
3. $-3 < x \leq 4$		
4.		
5.		
6.		
7.	$[2, \infty)$	
8.	$(-\infty, -5)$	
9.	$(0, 6)$	
10.	$[-2, 3)$	