






# Solving Inequalities

## Inequality Symbol

$>$	"greater than"	$x > 2$	
$<$	"less than"	$x < 2$	
$\geq$	"greater than or equal to"	$x \geq 2$	
$\leq$	"less than or equal to"	$x \leq 2$	
$\neq$	"not equal to"	$x \neq 2$	

## Solve the Equation

$$x + 6 = 15$$

$$x - 7 = -9$$

$$2x = 6$$

$$\frac{1}{3}x = 4$$

$$-2x = 6$$

$$-\frac{1}{3}x = 4$$

## Solve the Inequality

$$x + 6 \geq 15$$

$$x - 7 < -9$$

$$2x < 6$$

$$\frac{1}{3}x > 4$$

$$-2x < 6$$

$$-\frac{1}{3}x > 4$$

Directions: Solve the inequality and graph the solution on a number line.

1.  $6 > x - 4$



2.  $y + \frac{3}{5} \leq \frac{7}{10}$



3.  $2x + 8 \geq 11$



4.  $8 - 4x < 16$



5.  $-3b - 7 > 2.3$



6.  $-\frac{x}{3} + 4 \leq 10$



7.  $\frac{6}{5}x + 22 \leq 14$



8.  $7x - 2(x - 1) > -48$



9.  $2x + 1 < 5x - 8$



10.  $y + 5 + 5y \geq -7$

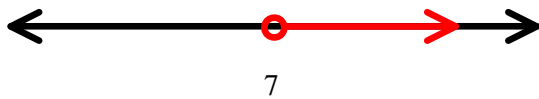


11.  $3x - (x - 7) < 22$

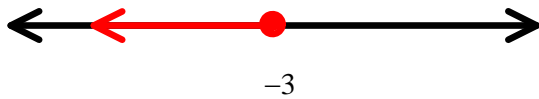


Directions: Write an inequality that describes the set of points graphed on each number line.

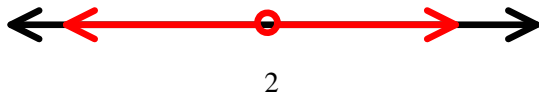
12.



13.



14.



>

greater than  
above  
more than

<

less than  
under

≥

greater than or equal to  
at least  
minimum value

≤

less than or equal to  
at most  
no more than  
without exceeding  
maximum value

Directions: Write an inequality to represent each situation.

15. A temperature of at least  $70^{\circ}$ .

16. The cost of a shirt is no more than \$30.