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	Solve the Inequality
$x + 6 = 15$	$x + 6 \geq 15$
$x - 7 = -9$	$x - 7 < -9$
$2x = 6$	$2x < 6$
$-2x = 6$	$-2x < 6$
$\frac{1}{3}x = 4$	$\frac{1}{3}x > 4$
$-\frac{1}{3}x = 4$	$-\frac{1}{3}x > 4$

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

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.

7

13.

–3

14.

2

>	<	≥	≤
greater than	less than	greater than or equal to	less than or equal to
above	under	at least	at most
more than		minimum value	no more than
			without exceeding
			maximum value

Directions: Write an inequality to represent each situation.

15. A temperature of at least 70°.

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