

1. How do you solve a 2-step inequality? using Inverse operations on both sides of the inequality
2. How many solutions does an inequality have? infinite
3. Describe the difference between the graphs of $x > 3$ and $x \leq 3$. The graph of $x > 3$ includes all numbers greater than 3 but not 3. The graph of $x \leq 3$ includes 3 and all numbers less than 3
4. What does the graph of $5 \geq x$ look like? closed circle on the 5 - includes 5; arrow to the left - includes all numbers
5. Solve and check $\frac{-2x}{-2} > \frac{6}{-2}$
 $x < -3$
 check: $-2x > 6$
 $-2(-5) > 6$
 $10 > 6$ ✓
 True
 plug in any number less than -3 to check. If $x = -5$ then
6. What happens when you multiply or divide each side of an inequality by a negative number? Reverse the direction of the inequality symbol in the solution.

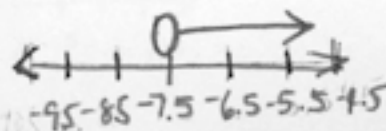
Solve and graph each inequality.

1. $-2x - 5 < 10$

$+5 +5$

$\frac{-2x}{-2} < \frac{15}{-2}$

$x > -7.5$

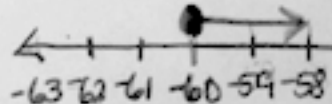


2. $\frac{x}{3} + 4 \geq -16$

$\frac{x}{3} - 4 \geq -20$

$\frac{x}{3} \geq -20 \cdot 3$

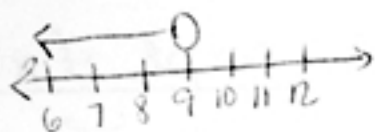
$x \geq -60$



$$3. \quad -\frac{2}{3}x - 6 > -12$$

$-\frac{2}{3}x$	$+6$	$+6$
$\frac{2}{3}x$		$\frac{2}{3}x$

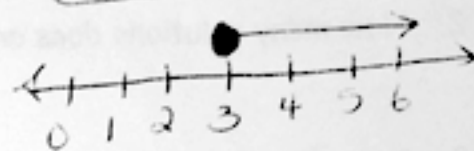
$$x < 9$$



$$4. \quad -5x - 20 \leq -35$$

$-5x$	$+20$	$+20$
$5x$		-15
		-5

$$x \geq 3$$

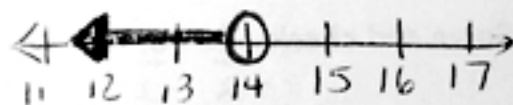


First circle & add like terms

$$(5x) + 4(-7x) > -24$$

$-2x + 4$	> -24
-4	-4
$-2x$	-28
-2	-2

$$x < 14$$

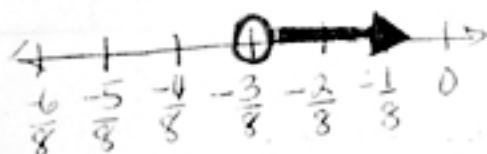


$$5. \quad 10 - 8x < 13$$

$8x$	-10	-10
$8x$		3
		$-\frac{3}{8}$

$$x > -\frac{3}{8}$$

Fractions are OK.

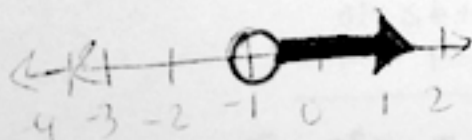


$$7. \quad 3(x+6) > 15$$

$$3x + 18 > 15$$

$3x$	> 15
18	-18
3	3

$$x > -1$$



$$8. \quad 2(x-6) \leq 4(x+1)$$

$2x - 12$	$4x + 4$
$-4x$	$-4x$
$-2x - 12$	4
$+12$	$+12$
$+2x$	16
-2	-2

$$x \geq -8$$

