Solving for x: Lesson 10

Linear Inequalities: Notes

Name: Answer Key

MATH ALL

Why we must flip an inequality sign:

	1<3	True?
Add 4 to both sides:	5<7	yes
Subtract 2 from both sides:	-1<1	yes
Multiply both sides by 2:	2<6	yes
Multiply both sides by -5:	-5 ~~<~~ -15	No

Steps in solving linear inequalities:

1. Solve normally, copying the inequality sign as you go.
2. If you × or ÷ by a negative number, flip the inequality sign.

Solve: $-4y+35 \geq 3$

$-35 \quad -35$

$\frac{-4y}{-4} \geq \frac{-32}{-4}$

$y \leq 8$

Flip or No Flip?

$6b < -30$	no
$d+10 \geq 13$	no
$\frac{e}{-3} \leq 7$	yes
$f-2 < 5$	no
$-g \geq 9$	yes
$\frac{h}{2}+7 > 2$	no
$-8i-2 \geq 11$	yes

Solve two ways:

$-2w-5 < 4w-17$

$+2w \quad +2w$

$-5 < 6w-17$

$+17 \quad +17$

$\frac{12}{6} < \frac{6w}{6}$

$2 < w$ or $w > 2$

$-2w-5 < 4w-17$

$-4w \quad -4w$

$-6w-5 < -17$

$+5 \quad +5$

$\frac{-6w}{-6} < \frac{-12}{-6}$

$w > 2$