

Basic linear equation and linear inequality technique

Breaking the bad habit on **the division step** that your teachers taught you.

≡ Homework: 1.1 - Linear, Rational, and Absolute Value Equatio

< Question 4, 1.1.15

Solve the following equation and check your answer.

$$-4x + 7 = 39$$

How most of you were taught!

$$-4x + 7 = 39$$

$$-7 = -7$$

$$\frac{-4x}{-4} = \frac{32}{-4} = -8$$

Bad Style!

MDAS - simplify
SADM - SOLVE

STRONGER way =

$$-4x + 7 = 39$$

$$-7 = -7$$

$$-4x = 32$$

$$x = \frac{32}{-4} = -8 = x$$

I'm looking for

Homework: 1.7 - Linear and Absolute Value Inequalities

Question 15, 1.7.61 Part 1 of 2

HW Score: 0%, 0 of 27 points Points: 0 of 1

Save

Solve the following absolute value inequality. Write the solution set using interval notation and graph it.

$|8 - 4x| \leq 5$

$|A| \leq B$ is "AND"

$|A| \geq B$ is "OR"

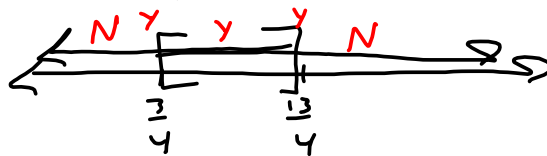
$|8 - 4x| \leq 5$ means

$$\begin{array}{r} 8 - 4x \leq 5 \quad \text{AND} \quad 8 - 4x \geq -5 \\ -8 \quad = -8 \qquad \qquad \qquad -8 \quad = -8 \\ \hline -4x \leq -3 \qquad \qquad \qquad -4x \geq -13 \end{array}$$

Flip, w/c -4 is negative

$$x \geq \frac{-3}{-4} = \frac{3}{4} \qquad x \leq \frac{-13}{-4} = \frac{13}{4}$$

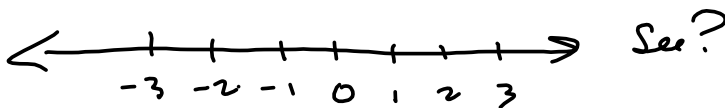
$x \geq \frac{3}{4}$ and $x \leq \frac{13}{4}$



AND
Must Keep Both happy!

$\Rightarrow x \in [\frac{3}{4}, \frac{13}{4}]$

$3 > 2$, but $-3 < -2$



$-4x < 8$ Fine

$\frac{-4x}{-4} < \frac{8}{-4}$ A Lie!

$\frac{-4x}{-4} < \frac{8}{-4}$ *Becomes a lie.*

Good STYLE

$$\begin{array}{l} -4x < 8 \\ x > \frac{8}{-4} = -2 \\ x > -2 \end{array}$$

Fair STYLE

$$\begin{array}{l} -4x < 8 \\ \frac{-4x}{-4} > \frac{8}{-4} = -2 \\ x > -2 \end{array}$$

I need to see