W-A2 Algebra 2 Week 5

$2(m+3)+1 > 23$

$2m+6+1 > 23$

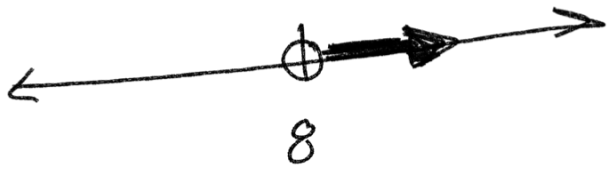
$2m+7 > 23$

$-7 \quad -7$

$\frac{2m}{2} > \frac{16}{2}$

$m > 8$

variable on right ← follow



$6 - x \leq 7x$ (+3, -3)

-3

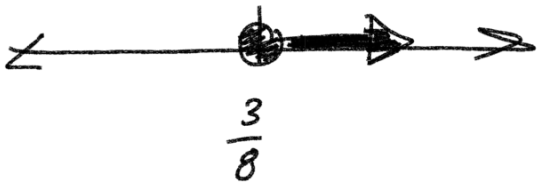
$3 - x \leq 7x$

$+x \quad +x$

$\frac{3}{8} \leq \frac{8x}{8}$

$\frac{3}{8} \leq x$ ← right

↑ opposite direction



$-2(3x + 4) + 6 \geq 30$

$-6x - 8 + 6 \geq 30$

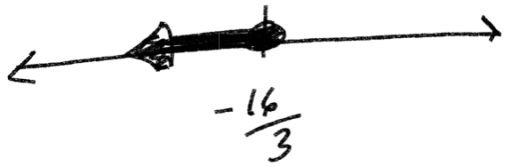
$-6x - 2 \geq 30$

$+2 \quad +2$

$\frac{-6x}{-6} \geq \frac{32}{-6}$

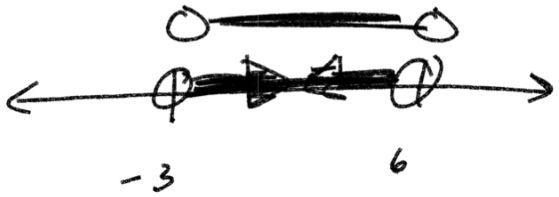
$x \leq \frac{-32}{6}$ ÷2 ÷2

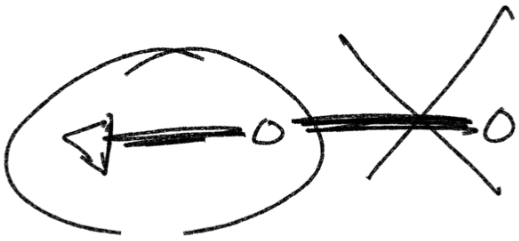
$x \leq -\frac{16}{3}$

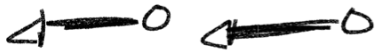


$\frac{9x}{9} < \frac{54}{9}$ and $\frac{-4x}{-4} < \frac{12}{-4}$

$x < 6$ and $x > -3$







$-18 \leq 3x + 3 < 21$

$-3 \quad -3 \quad -3$

$-21 \leq 3x < 18$

$\frac{-21}{3} \leq \frac{3x}{3} < \frac{18}{3}$

$-7 \leq x < 6$

$-7 \leq x$ and $x < 6$

1-5 Absolute Value Equations and Inequalities

$|2x+7| = 5$ ← check if there is a variable

$|5| = 5$ $\quad |-5| = 5$

$2x+7 = 5$ $\quad 2x+7 = -5$

$-7 \quad -7 \quad -7 \quad -7$

$\frac{2x}{2} = \frac{-2}{2} \quad \frac{2x}{2} = \frac{-12}{2}$

$x = -1 \quad x = -6$

$|2(-1)+7| = 5$

$|-2+7| = 5$

$|5| = 5$

$|2(-6)+7| = 5$

$|-12+7| = 5$

$|-5| = 5$

$|3x-2| = 8$ (+) (−)

$|8| = 8$

$|-8| = 8$

$3x-2 = 8 \quad 3x-2 = -8$

$+2 \quad +2 \quad +2 \quad +2$

$\frac{3x}{3} = \frac{10}{3} \quad \frac{3x}{3} = \frac{-6}{3}$

$x = \frac{10}{3} \quad x = -2$

$\frac{10}{3}$, -2

③ $\frac{|2x+5|}{3} = \frac{15}{3}$

$|2x+5| = 5$

$2x+5 = 5$ $\quad -5 \quad -5$

$\frac{2x}{2} = \frac{0}{2}$

$x = 0$

$2x+5 = -5$ $\quad -5 \quad -5$

$\frac{2x}{2} = \frac{-10}{2}$

$x = -5$

$-5, 0$

$|3x+8| = -4$

no solution

ns

$|2x-1| - 8 = -3$ $\quad +8 \quad +8$

$|2x-1| = 5$

$\frac{-4|3x-2|}{-4} = \frac{-32}{-4}$

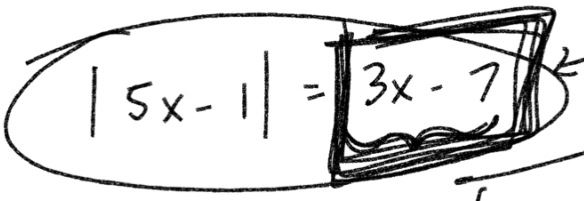
$|3x-2| = 8$

$3x-2 = 8$ $\quad 3x-2 = -8$

$|5x-1| + 7 = 3x$

$|5x-1|+7=3x$

$-7 \quad -7$



cannot be negative

no solution

$5x-1=3x-7$

$-3x \quad -3x$

$2x-1=-7$

$+1 \quad +1$

$\frac{2x}{2}=\frac{-6}{2}$

$x=-3$

$3x-7$

$3(-3)-7$

$-9-7=-16$

ns

$5x-1=-(3x-7)$ (opposite)

$\{5x-1=-3x+7\}$

$+1 \quad +1$

$5x=-3x+8$

$+3x \quad +3x$

$\frac{8x}{8}=\frac{8}{8}$

$x=1$

$3(1)-7$

$3-7=-4$

$|x+7| = 2x+8$

$x+7 = 2x+8$

$-7 \quad -7$

$x = 2x+1$

$-2x \quad -2x$

$-x = 1$

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

$x = -1$

$x+7 = -2x-8$

$+2x \quad +2x$

$3x+7 = -8$

$-7 \quad -7$

$\frac{3x}{3} = \frac{-15}{3}$

$x = -5$

$2x+8$

$2(-1)+8$

$-2+8 = 6$

$2(-5)+8$

$-10+8 = -2$

$|x-3| \leq 19$

flip inequality opposite

$x-3 \leq 19$

$+3 \quad +3$

$x \leq 22$

$x-3 \geq -19$

$+3 \quad +3$

$x \geq -16$

Quiz 3
due tonight

Quiz 4
due Oct 14th HW

1-5 evens
supplemental ws
online HW 5 (Fri)
Quiz 5 (Fri)
due Oct 21st