Algebra 1

Chapter 3

Section 3-4

May 13-10:02 PM

One-step Inequalities

$4 + k > 11$

$-4 \quad -4$

$k > 7$

$\frac{y}{6} < -1 \cdot 6$

$y < -6$

$-5x < 85$

$\frac{-5x}{-5} < \frac{85}{-5}$

$x > -17$

$h - 3 < -2$

$+3 \quad +3$

$h < 1$

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Multi-Step Equations

$6v - 2 = 9v - 3$

$-6v \quad -6v$

$-2 = 3v - 3$

$+3 \quad +3$

$1 = 3v$

$\frac{1}{3} = \frac{3v}{3}$

$1/3 = v$

$1 - 2n = -2(n - 1)$

$1 - 2n = -2n + 2$

$+2n \quad +2n$

$1 \neq 2$

no solution

$8y - 5 + 2y = 105$

$10y - 5 = 105$

$+5 \quad +5$

$\frac{10y}{10} = \frac{110}{10}$

$y = 11$

$8(5x - 3) = 10(4x - 2.4)$

$40x - 24 = 40x - 24$

Identity

Infinite solutions

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Multi-Step Inequalities

$2x + 7 \leq 19$

$-7 \quad -7$

$\frac{2x}{2} \leq \frac{12}{2}$

$x \leq 6$

$18 - n \geq -1$

$-18 \quad -18$

$(-1) -n \geq -19 (-1)$

$n \leq 19$

$18 - n \geq -1$

$+1 \quad +1$

$19 - n \geq 0$

$+n \quad +n$

$19 \geq n$

$5f - 10 > 6f$

$-5f \quad -5f$

$-10 > 1f$

$-10 > f$

$f < -10$

$-7 + \frac{2}{3}h < -5$

$+7 \quad +7$

$\frac{2}{3}h < 2$

$\frac{2}{3} \quad \frac{2}{3}$

$h < \frac{2}{1} \cdot \frac{3}{2}$

$h < 3$

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Multi-step Inequalities

$9r - 5 \leq 4r + 25$

$-4r \quad -4r$

$5r - 5 \leq 25$

$+5 \quad +5$

$\frac{5r}{5} \leq \frac{30}{5}$

$r \leq 6$

$31t - 5t \leq 4 + 25t$

$26t \leq 4 + 25t$

$-25t \quad -25t$

$t \leq 4$

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More Multip-step Inequalities

$s - 13 > 12s + 13$

$-s \quad -s$

$-13 > 11s + 13$

$-13 \quad -13$

$\frac{-26}{11} > \frac{11s}{11}$

$-\frac{26}{11} > s$

$11n - 3 + 6n \leq 33 - n$

$17n - 3 \leq 33 - n$

$+n \quad +n$

$18n - 3 \leq 33$

$+3 \quad +3$

$\frac{18n}{18} \leq \frac{36}{18}$

$n \leq 2$

$500 < -g + 475$

$-475 \quad -475$

$\frac{25}{-1} < \frac{-g}{-1}$

$-25 > g$

$\frac{2}{3} + m \geq 6m + \frac{5}{9}$

$-m \quad -m$

$\frac{6}{9} - \frac{3}{3} \cdot \frac{2}{3} \geq 5m + \frac{5}{9}$

$-\frac{5}{9} \quad -\frac{5}{9}$

$\frac{1}{9} \geq \frac{5m}{5}$

$\frac{1}{9} \cdot \frac{1}{5} \geq m$

$\frac{1}{45} \geq m$

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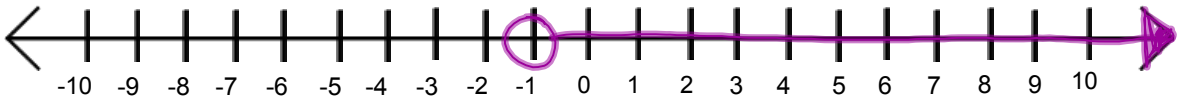
Solve the inequality and graph the solution.

$6x + 5 > -1$

$-5 \quad -5$

$\frac{6x}{6} > \frac{-6}{6}$

$x > -1$



Oct 8-8:48 AM

Solve the inequality and graph the solution.

$11x \geq 3x + 2(x - 8) - 2$

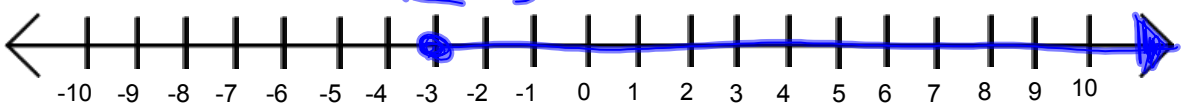
$11x \geq 3x + 2x - 16 - 2$

$11x \geq 5x - 18$

$-5x \quad -5x$

$\frac{6x}{6} \geq \frac{-18}{6}$

$x \geq -3$



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Solve the inequality and graph the solution.

$x + 7(x + 1) \leq 8(x + 1)$

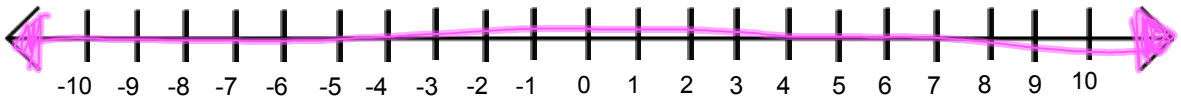
$x + 7x + 7 \leq 8x + 8$

$8x + 7 \leq 8x + 8$

$-8x \quad -8x$

$7 \leq 8$

infinite solutions



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Solve the inequality and graph the solution.

$-3(4x + 7) > 6(2 - 2x)$

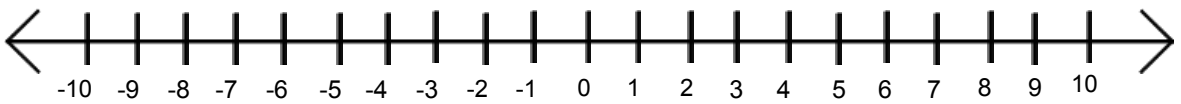
$-12x - 21 > 12 - 12x$

$+12x \quad +12x$

$-21 \not> 12$

no solution

no graph



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Writing an Inequality

Jimbo from Delivery Express uses the elevator to bring boxes of staplers up to an office on the 12th floor. He weighs 190 pounds and each box weighs 17 pounds. The maximum capacity of the elevator is 700 pounds. Write an inequality describing how many boxes Jimbo can take into the elevator.

$190 + 17x \leq 700$

$-190 \quad -190$

$\frac{17x}{17} \leq \frac{510}{17}$

$x \leq 30$

$17\overline{)510}$ = 30

$-51\downarrow$

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Oct 6-8:47 PM