Linear Equations and Inequalities

- Equations
- Solving Equations
- Linear Equations in One Variable
- Linear Inequalities in One Variable

Sections P3:

HW: 1, 12-20 Even, 24, 26, 27, 38, 39, 45

Aug 20-7:12 AM

Solving Linear Equations

Solve the following equation. Support the result with the calculator

$2(2x - 3) + 3(x + 1) = 5x + 2$

$4x - 6 + 3x + 3 = 5x + 2$

$7x - 3 = 5x + 2$

$-5x \qquad -5x$

$2x - 3 = 2$

$+3 \quad +3$

$2x = 5 \qquad x = 5/2 \text{ or } 2.5$

Aug 20-8:43 AM

Solving Linear Equation Involving Fractions

Solve

$$8\left(\frac{5y-2}{8}\right) = 8\left(2+\frac{y}{4}\right)$$

LCD = 8

$\frac{8y}{4} = 2y$

$5y - 2 = 16 + 2y$

$-2y \qquad -2y$

$3y - 2 = 16$

$+2 \quad +2$

$3y = 18$

$y = 6$

Aug 20-8:43 AM

Solving Linear Inequality

Solve

$$3(x-1) + 2 \leq 5x + 6$$

$3x - 3 + 2 \leq 5x + 6$

$3x - 1 \leq 5x + 6$

$-3x \qquad -3x$

$-1 \leq 2x + 6$

$-6 \qquad -6$

$-7 \leq 2x$

$-\frac{7}{2} \leq x$

$[-7/2, \infty)$

Aug 20-8:43 AM

Solving Linear Inequality Involving Fractions

Solve

LCD = 12

$$12\left(\frac{x}{3}+\frac{1}{2} > \frac{x}{4}+\frac{1}{3}\right)$$

$4x + 6 > 3x + 4$

$-3x \quad -3x$

$x + 6 > 4$

$-6 \quad -6$

$x > -2$

$(-2, \infty)$

Aug 20-8:43 AM

Solving a Double Inequality

Solve

CD = 3

$$3\left(-3 < \frac{2x+5}{3} \leq 5\right)$$

$-9 < 2x + 5 \leq 15$

$-5 \quad -5 \quad -5$

$-14 \leq 2x \leq 10$

$\frac{-14}{2} \leq \frac{2x}{2} \leq \frac{10}{2}$

$-7 < x \leq 5$

$(-7, 5]$

Aug 20-8:43 AM

Pg. 25 HW: 1, 12-20 Even, 24, 26, 27, 38, 39, 45

Aug 25-11:00 AM

33) $-1 < 4x - 1 \leq 11$

$+1 \quad +1 \quad +1$

$\frac{0}{4} < \frac{4x}{4} \leq \frac{12}{4}$

$0 < x \leq 3$

$(0, 3]$

Aug 25-11:49 AM

45)

$3(4) \geq 3\left(\frac{2y-5}{3}\right) \geq 3(-2)$

$12 \geq 2y - 5 \geq -6$

$+5 \quad +5 \quad +5$

$\frac{17}{2} \geq \frac{2y}{2} \geq \frac{-1}{2}$

$\left[-\frac{1}{2}, \frac{17}{2}\right]$

$\frac{17}{2} \geq y \geq -\frac{1}{2}$

Aug 25-11:50 AM

Aug 25-2:52 PM