

2-4 Notes: Solving Equations with the Variable on Each Side, Solving by LCD and Consecutive integer problems.

Variables on Each Side To solve an equation with the same variable on each side, first use the Addition or the Subtraction Property of Equality to write an equivalent equation that has the variable on just one side of the equation. Then solve the equation.

Example 1: Solve $5y - 8 = 3y + 12$.

Grouping Symbols When solving equations that contain grouping symbols, first use the Distributive Property to eliminate grouping symbols. Then solve.

Example: Solve $4(2a - 1) = -10(a - 5)$.

Solving an equation with fractions: Reduce away denominators by multiplying the entire equation by the Lowest Common Divisor. **DO NOT CROSS MULTIPLY!!!!**

EX: $\frac{b-4}{6} = \frac{b}{2}$

EX: $\frac{3x}{2} + \frac{x+3}{5} + x - 1 = \frac{3x+20}{10}$

Variable on the denominator

EX: $\frac{2y}{y-8} = \frac{2}{5}$

Consecutive Integer Problems:

EX: Find two consecutive integers such that the larger minus twice the smaller is -13.

Step 1: Create a “key” or “legend”

Step 2: Write the equation

Step 3: Solve

Step 4: Answer the question

EX: Find two consecutive, even integers such that

The larger plus three times the smaller is 18.

Note: Consecutive even integers are 2,4,6,8, etc... so n , $n + 2$, $n + 4$, etc....

Consecutive odd integers are 1,3,5,7,9, etc... so n , $n + 2$, $n + 4$, etc....