

**3-4 Study Guide and Intervention***fill this out!***Solving Multi-Step Equations**

**Solve Multi-Step Equations** To solve equations with more than one operation, often called **multi-step equations**, undo operations by working backward. Reverse the usual order of operations as you work.

**Example****Solve  $5x + 3 = 23$ .**

$$5x + 3 = 23$$

Original equation.

$$5x + 3 - 3 = 23 - 3$$

Subtract 3 from each side.

$$5x = 20$$

Simplify.

$$\frac{5x}{5} = \frac{20}{5}$$

Divide each side by 5.

$$x = 4$$

Simplify.

*Look*

- \* addition/subtraction undo each other.
- \* multiplication/division undo each other.
- \* circle the problem number.
- \* write the original equation, doublecheck to make sure you wrote it correctly.
- \* show complete equations and show what undo you are doing to each side, repeat as needed.
- \* box your answers.
- \* ALL WORK ON LOOSELEAF.

Mr. C.

**Exercises****Solve each equation. Then check your solution.**

**1.**  $5x + 2 = 27$

**2.**  $6x + 9 = 27$

**3.**  $5x + 16 = 51$

**4.**  $14n - 8 = 34$

**5.**  $0.6x - 1.5 = 1.8$

**6.**  $\frac{7}{8}p - 4 = 10$

**7.**  $16 = \frac{d - 12}{14}$

**8.**  $8 + \frac{3n}{12} = 13$

**9.**  $\frac{g}{-5} + 3 = -13$

**10.**  $\frac{4b + 8}{-2} = 10$

**11.**  $0.2x - 8 = -2$

**12.**  $3.2y - 1.8 = 3$

**13.**  $-4 = \frac{7x - (-1)}{-8}$

**14.**  $8 = -12 + \frac{k}{-4}$

**15.**  $0 = 10y - 40$