

Key

Solving Equations with Variables on Both Sides

Steps to Follow:

- 1) Distribute
- 2) Combine Like Terms
- 3) Get variable on one side
- 4) Undo + or -
- 5) Undo * or ÷

$$1. \quad \begin{array}{c} 5n - 2 = 3n + 6 \\ \text{(-3n)} \quad \text{(-3n)} \end{array}$$

$$2n - 2 = 6$$

$$\frac{2n}{2} = \frac{8}{2}$$

$$\boxed{n = 4}$$

$$3. \quad \begin{array}{c} 8y + 4 = 11y - 17 \\ \text{(-8y)} \quad \text{(-8y)} \end{array}$$

$$4 = 3y - 17$$

$$\frac{21}{3} = \frac{3y}{3}$$

$$\boxed{7 = y}$$

$$2. \quad \begin{array}{c} m - 1 = 9m + 15 \\ \text{(-9m)} \quad \text{(-9m)} \end{array}$$

$$-8m - 1 = 15$$

$$\frac{-8m}{-8} = \frac{16}{-8}$$

$$\boxed{m = -2}$$

$$4. \quad 6x + 2 = 2(3x + 1)$$

$$6x + 2 = 6x + 2$$

All real numbers
are solutions
ARN

$$5. \quad 5(2x + 1) = 10x$$

$$10x + 5 = 10x$$

No possible solutions
NS

$$6. \quad 15 - 4x = 42 - 7x$$

$$-4x + 7x = 27 - 7x + 7x$$

$$3x = 27$$

$$x = 9$$

$$7. \quad -5a + 6 = 6a - 38$$

$$-11a + 6 = -38$$

$$\frac{-11a}{-11} = \frac{-44}{-11}$$

$$a = 4$$

$$8. \quad 3(x + 6) = 3x + 18$$

$$3x + 18 = 3x + 18$$

ARN

Homework: "Title of This Picture" wkst.
Adapted: "Title of This Picture" wkst. (the first 8 problems only)