Lesson 4.7 ~ Solving Equations with Variables on Both Sides

Name_____ Period_____ Date_____

Solve each equation for the variable. Show your work and check your solution.

1. $4y + 12 = 8y$

2. $3x + 10 = 9x - 26$

3. $40 - 3d = 2d$

4. $12p - 7 = 6p + 5$

5. $-5y - 30 = 3y + 10$

6. $-11 + 3x = 2x + 19$

7. $3.3h - 3 = 15 - 1.2h$

8. $-4m + 6 = -9m + 31$

9. $-2 + 2b = 5b + 5.5$

10. $\frac{1}{2}x + 2 = \frac{3}{8}x - 1$

11. NK Karate Club offers two different fees for their karate classes. Club members are charged a one-time membership fee of $32 and pay $4 per class. Non-members pay $8 per class. Let *y* represent the number of karate classes attended.

a. Write an expression to represent the cost for a non-member to attend *y* classes.

b. Write an expression to represent the cost for a member to attend *y* classes.

c. Set the two expressions equal to each other and solve the equation to determine how many classes result in the same cost for a member and non-member.