NAME _____ DATE _____ PERIOD _____

3-5 Skills Practice

Solving Equations with the Variable on Each Side

Question 1 and 2: Read the summary below. Circle "Yes" if you read it and get credit for the first two problems -- you really do have to read it!!! == Mr. C.

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Summary of Equation Solving Steps:

1. Use the D.P. (distributive property) to get rid of parentheses.

2. Make sure all "like" terms on the left and right side are combined, especially after using the distributive property to get variables and numbers out of "parentheses jail".

NOTE: "like" terms have the same variable and the variables have the same exponent. DO NOT combine (add or subtract) numbers and variables.

3. Use "undos" and the GRE to combine the variable into one term. If possible, pick the "undos" that will keep the variable positive. It doesn't matter what side the variable term ends up on, use whatever undos are easiest.

4. Use "undos" and the GRE to GET THE VARIABLE BY ITSELF.

5. Check your solution (substitute your answer into the ORIGINAL equation).

Be alert to the 2 special cases when the variable "goes away." A TRUE expression means the solution is "ALL REAL NUMBERS." False means "NO SOLUTION."

Solve each equation. Then check your solution.

3. $2m + 12 = 3m - 31$

4. $2h - 8 = h + 17$

5. $7a - 3 = 3 - 2a$

6. $4n - 12 = 12 - 4n$

7. $4x - 9 = 7x + 12$

8. $-6y - 3 = 3 - 6y$

9. $5 + 3r = 5r - 19$

10. $-9 + 8k = 7 + 4k$

11. $8q + 12 = 4(3 + 2q)$

12. $3(5j + 2) = 2(3j - 6)$

13. $6(-3v + 1) = 5(-2v - 2)$

14. $-7(2b - 4) = 5(-2b + 6)$

15. $3(8 - 3t) = 5(2 + t)$

16. $2(3u + 7) = -4(3 - 2u)$

17. $8(2f - 2) = 7(3f + 2)$

18. $5(-6 - 3d) = 3(8 + 7d)$

19. $6(w - 1) = 3(3w + 5)$

20. $7(-3y + 2) = 8(3y - 2)$

21. $\frac{2}{3}v - 6 = 6 - \frac{2}{3}v$

22. $\frac{1}{2} - \frac{5}{8}x = \frac{7}{8}x + \frac{7}{2}$

Lesson 3-5