Name _____ Date _____

LESSON 2.5

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Practice C

For use with the lesson "Solve Equations with Variables on Both Sides"

Solve the equation and describe each step you use.

1. $9x - 4 = 7x - 16$

2. $5d - 3 + 2d = 4d + 9$

3. $4(2m + 5) = 3m - 5$

4. $6(7 - 2p) = 3(5p + 1)$

5. $11w + 2(w + 1) = 5w - 6$

6. $10 + 2(2a + 1) = 7a - 3$

7. $\frac{1}{2}(12n - 2) = 5n - 7$

8. $4y + 16 = \frac{1}{3}(10y - 4)$

9. $-\frac{3}{4}(8x - 12) = 5x - 2$

Solve the equation, if possible.

10. $42n - 13 = 17n + 12$

11. $4.5x + 3.4 = 1.5x - 2.6$

12. $14d - 43 = 6d - 13 - 7d$

13. $-4(2w - 5) = 3w - 13$

14. $14 - 4z = 2(17 - z)$

15. $9(4h - 6) = 2(-13 - 2h)$

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

17. $\frac{1}{3}(6x + 3) = 2x - 5$

18. $\frac{1}{4}(9 - 2x) = \frac{1}{8}(3x + 4)$

19. $6.8t - 10 - 3.2t = 3t - 1$

20. $6(1.3p - 3) = 2.6p - 5$

21. $0.2(15z - 5) = 4(4z + 1)$

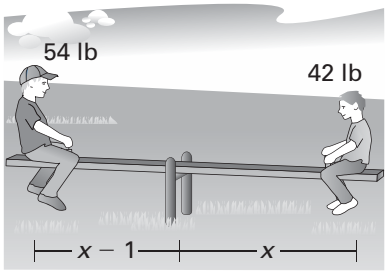
Find the length and the width of the rectangle described.

22. The length is 5 units more than the width. The perimeter is 9 times the width.

23. The length is 5 units less than 2 times the width. The perimeter is 22 units more than twice the width.

24. **High School Enrollments** Central High's enrollment decreases at an average rate of 55 students per year, while Washington High's enrollment increases at an average rate of 70 students per year. Central High has 2176 students and Washington High has 1866 students. If enrollments continue to change at the same rate, when will the two schools have the same number of students?

25. **Teeter-Totter** Two children weighing 42 pounds and 54 pounds are on a teeter-totter as shown. The 54-pound child is sitting 1 foot closer to the center than the 42-pound child. To balance the teeter-totter, the 42-pound child must sit x feet from the center. Write an equation to find how many feet the 42-pound child must be from the center of the teeter-totter so it is balanced. Solve for x.



26. **Charity Race** In a 5-mile charity race, groups of runners are started 5 minutes apart. One runner in the first group is running at a rate of 0.06 mile per minute. One runner in the second group is running at a rate of 0.1 mile per minute.

a. Let t represent the time (in minutes) it takes the runner from the first group to run the race. Write and solve an equation to find the number of minutes after which the runner from the second group would catch up with the runner from the first group.

b. Does the runner from the second group pass the runner from the first group before the race is over? *Explain* your reasoning.