LESSON **3.4**

NAME _____ DATE _____

Practice B

For use with pages 154–159

{8-24 evens} copy problem to a separate sheet of paper, show All steps for solving

Solve the equation and describe each step you use.

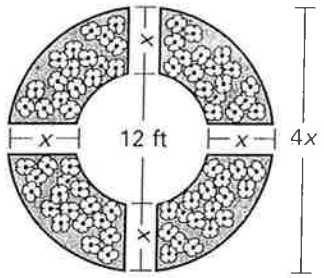
1. $2x = -x + 9$
2. $-4x - 6 = 3x + 1$
3. $5 - 2x = 3x + 8$
4. $4(10 - x) = -7(x - 1)$
5. $\frac{2}{3}(9x - 3) = -4 + 8x$
6. $-(18 + x) = 2(11 - 6x) + x$

Solve the equation if possible.

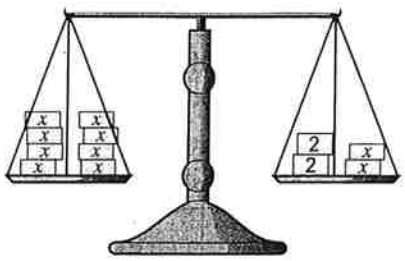
7. $5x + 5 = 6x$
8. $-2x = -4x + 24$
9. $7x - 40 = -3x$
10. $7x = 4x - 15$
11. $-8x - 70 = 6x$
12. $8x - 9 = 8x$
13. $2(2x - 3) = 4x - 6$
14. $-3 - (-4x) = -4x + 5$
15. $-(10 - x) = 3(x + 4)$
16. $8x - 4 = 19 + 5x$
17. $\frac{1}{5}x = 7 - \frac{4}{5}x$
18. $\frac{1}{4}x + 12 = \frac{-1}{4}x$
19. $\frac{1}{2}x - 8 = 14 + \frac{1}{2}x$
20. $\frac{1}{2}(2x - 6) = 2x$
21. $\frac{1}{3}(6x - 9) = 2x - 3$
22. $\frac{2}{3}(3x + 18) = 5x - 9$
23. $\frac{1}{4}(4 - x) = 10 + 2x$
24. $2(x - 1) = \frac{3}{5}(10 + 5x)$

In Exercises 25–27, write and solve an equation to answer the question.

25. *Dimensions of a Circular Flower Garden* A flower garden has the shape pictured below. The diameter of the inner circle is 12 feet. What are the lengths of the walkways?



26. *Balanced Scale* On one side of a scale there are 4 blocks, 2 weighing 2 grams each and 2 weighing x grams each. The scale is balanced if 8 blocks weighing x grams each are placed on the other side of the scale. How much does each of the unknown blocks weigh?



27. *Distance-Rate-Time* Two cars travel the same distance. The first car travels at a rate of 40 miles per hour and reaches its destination in t hours. The second car travels at a rate of 55 miles per hour and reaches its destination 3 hours earlier than the first car. How long does it take for the first car to reach its destination? How long does it take for the second car to reach its destination?

Rate of car 1	·	Time for car 1	=	Rate of car 2	·	Time for car 2

28. *Extension* Write an equation that has no solution.

Extension Write an equation that is an identity.

LESSON 3.5

NAME _____ DATE _____

Practice B

For use with pages 160–165

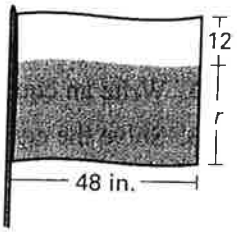
{1-6} All

Lesson 3.5

Sewing Flags **In Exercises 1–3, use the following information.**

You are making flags for the school color guard. Each flag has a red stripe and a 12-inch-wide white stripe. The width of each flag is $\frac{3}{4}$ its length. The length is 48 inches. How wide is the red stripe?

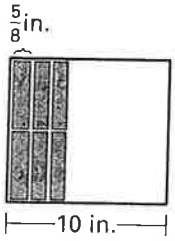
1. Write a verbal model for this problem.
2. Write an equation for the model.
3. Solve the equation and answer the question.



Cassette Storage **In Exercises 4–6, use the following information.**

You have a box that is a good size for your tape collection. Two rows of tapes will fit in the box. The box is 10 inches wide. Each tape is $\frac{5}{8}$ inches wide. How many tapes will fit in the box?

4. Write a verbal model for this problem.
5. Write an equation for the model.
6. Solve the equation and answer the question.



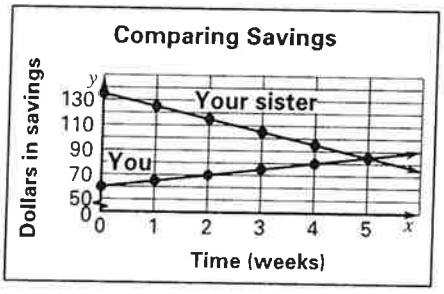
Saving and Spending **In Exercises 7–11, use the following information.**

Currently, you have \$60 and your sister has \$135. You decide to save \$5 of your allowance each week, while your sister decides to spend her whole allowance plus \$10 each week. How long will it be before you have as much money as your sister?

7. Write a verbal model for this problem.
8. Write an equation for the model.
9. Solve the equation and answer the question.
10. Copy and complete the table below using the information from the original problem statement.

Week	*0*	*1*	*2*	*3*	*4*	*5*
Your money						
Sister's money						

11. Use the graph to check the answer. Is the solution correct? Explain.



Temperature Change **In Exercises 12–16, use the following information.**

In Detroit the temperature is 69° F and is rising at a rate of 2° F per hour. In Atlanta the temperature is 84° F and is falling at a rate of 3° F per hour. If the temperatures continue to change at the same rates, how long will it be before the temperatures are the same?

12. Write a verbal model for this problem.
13. Write an equation for the model.
14. Solve the equation and answer the question.
15. Copy and complete the table below using the information from the original problem statement.

Hour	*0*	*1*	*2*	*3*	*4*	*5*
Detroit temperature						
Atlanta temperature						

16. Use the graph to check the answer. Is the solution correct? Explain.