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Lesson 6: Factor Fixin'
Ready, Set, Go

Ready

Multiply. Use the Distributive Property.

1. $x(4x - 7)$

2. $5x(3x + 8)$

3. $3x(3x - 2)$

4. The answers to the three previous problems are quadratic expressions that can be represented in standard form $ax^2 + bx + c$. Which coefficient, a, b, or c, equals 0 for all of the exercises?

    A. a **C.** c

    B. b

Write each of the following quadratic expressions in factored form, $ax(x + d)$.

5. $x^2 + 4x$

6. $7x^2 - 21x$

7. $12x^2 + 60x$

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8. $8x^2 + 20x$

What are the values of a, b, and c in problems 9–12?

9. $(x^2 - 81)$

10. $x^2 - 4$

11. $36x^2 - 25$

12. $49x^2 - 1$

Set

Factor the following quadratic expressions into two binomials.

13. $x^2 + 14x + 45$

14. $x^2 + 18x + 45$

15. $x^2 + 46x + 45$

16. $x^2 + 11x + 24$

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17. $x^2 + 10x + 24$

18. $x^2 + 14x + 24$

19. $x^2 + 12x + 36$

20. $x^2 + 13x + 36$

21. $x^2 + 20x + 36$

22. $x^2 - 15x - 100$

23. $x^2 + 20x + 100$

24. $x^2 + 29x + 100$

25. Look back at each consecutive set of three problems (e.g., 13, 14, 15). Explain how it is possible that the coefficient of the middle term can be different in each problem when the first and last coefficients are the same.

Go

Solve the system of equations.

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26. $\begin{cases} y = 3x - 15 \\ y = x + 3 \end{cases}$

27. $\begin{cases} y = -7x + 15 \\ x = 3 \end{cases}$

28. $\begin{cases} 5x - 2y = 13 \\ -2x + y = -8 \end{cases}$