NAME _____ DATE _____

Practice A
For use with pages 619–624

Factor out the greatest common monomial factor.

1. $3x^2 + 6x + 3$

2. $2x^2 - 8x + 8$

3. $4x^2 + 8x + 4$

4. $3x^2 - 12x + 12$

5. $5x^2 + 30x + 45$

6. $-3x^2 - 18x - 27$

Match the trinomial with a correct factorization.

7. $x^2 - 6x + 9$

8. $x^2 + 6x + 9$

9. $2x^2 - 12x + 18$

10. $3x^2 + 18x + 27$

11. $2x^2 - 18$

12. $3x^2 - 27$

A. $3(x + 3)^2$

B. $(x + 3)^2$

C. $(x - 3)^2$

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

E. $3(x + 3)(x - 3)$

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

Factor the expression.

13. $x^2 - 25$

14. $x^2 - 49$

15. $4x^2 - 9$

16. $x^2 - \frac{1}{4}$

17. $x^2 - y^2$

18. $25x^2 - 16$

19. $9x^2 - 16$

20. $16 - x^2$

21. $200x^2 - 18$

Factor the expression.

22. $x^2 + 10x + 25$

23. $x^2 - 18x + 81$

24. $4x^2 + 4x + 1$

25. $x^2 + x + \frac{1}{4}$

26. $x^2 - 2xy + y^2$

27. $4x^2 + 28x + 49$

28. $25x^2 - 20x + 4$

29. $9x^2 - 24xy + 16y^2$

30. $20x^2 + 60x + 45$

Use factoring to solve the equation. Use a graphing calculator to check your solution if you wish.

31. $2x^2 - 18 = 0$

32. $3x^2 + 12x + 12 = 0$
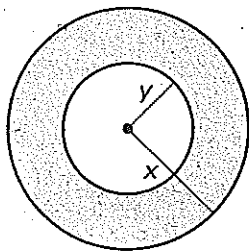
33. $x^2 - \frac{4}{9} = 0$

34. $10x^2 - 80x + 160 = 0$

35. $7x^2 - 28 = 0$

36. $4x^2 - 40x + 100 = 0$

37. *Washers* Washers are available in various sizes. Find an expression for the area of one flat side of a washer. Factor the expression. What is the area if $x = 5$ centimeters and $y = 2$ centimeters?

Algebra 1

NAME _____ DATE _____

Practice B

For use with pages 619–624

Match the trinomial with a correct factorization.

1. $x^2 - 16$
2. $x^2 + 8x + 16$
3. $2x^2 + 16x + 32$
4. $2x^2 - 16x + 32$
5. $x^2 - 8x + 16$
6. $2x^2 - 32$

A. $2(x + 4)^2$
B. $(x + 4)^2$
C. $(x - 4)^2$
D. $2(x - 4)(x + 4)$
E. $(x + 4)(x - 4)$
F. $2(x - 4)^2$

Factor the expression.

7. $x^2 - 9$
8. $x^2 - 144$
9. $x^2 - \frac{1}{9}$
10. $x^2 - 0.16$
11. $4x^2 - 49$
12. $9x^2 - 25$
13. $p^2 - q^2$
14. $64x^2 - 9y^2$
15. $100 - x^2$
16. $49 - x^2$
17. $4a^2 - b^2$
18. $12x^2 - 48$

Factor the expression.

19. $x^2 + 18x + 81$
20. $x^2 - 8x + 16$
21. $4x^2 + 4x + 1$
22. $25x^2 - 30x + 9$
23. $a^2 - 2ab + b^2$
24. $x^2 + 4xy + 4y^2$
25. $4x^2 + 2x + \frac{1}{4}$
26. $9x^2 - 0.6x + 0.01$
27. $8x^2 + 8xy + 2y^2$
28. $3x^2 - 30xy + 75y^2$
29. $25 - 20x + 4x^2$
30. $36 + 48x + 16x^2$

Use factoring to solve the equation. Use a graphing calculator to check your solution if you wish.

31. $3x^2 - 48 = 0$
32. $4x^2 - 20x + 25 = 0$
33. $3x^2 - \frac{3}{4} = 0$
34. $9x^2 - 24x + 16 = 0$
35. $-5x^2 + 20 = 0$
36. $\frac{4}{3}x^2 + \frac{20}{3}x + \frac{25}{3} = 0$

37. *Quilt* · A square quilt for a child's bed has a border made up of 36 pieces with an area of x square inches each, and 4 small squares with an area of 1 square inch each. The main part of the quilt is made up of 81 squares with an area of x^2 square inches each. Find an expression for the area of the quilt. Factor the expression. If the quilt is 5 feet by 5 feet, what are the dimensions of the inside squares?

Algebra 1
Chapter 10 Resource Book