Name _____ Date _____

Additional Exercises 7.6
Form I
Solving Quadratic Equations by Factoring

Solve each equation using the zero product principle.

1. $(x-9)(x+7)=0$ 1. _____

2. $(y+12)(y+8)=0$ 2. _____

3. $(3x+1)(2x-1)=0$ 3. _____

4. $x(x-5)=0$ 4. _____

5. $x(x+3)(5x-4)=0$ 5. _____

Use factoring to solve each quadratic equation.

6. $x^2-5x+4=0$ 6. _____

7. $3x^2-10x-8=0$ 7. _____

8. $x^2-x=20$ 8. _____

9. $x^2+4x=12$ 9. _____

Name _____ Date _____

10. $6x^2 = 2 - x$ 10. _____

11. $y^2 = 49$ 11. _____

12. $3x^2 - 27x + 60 = 0$ 12. _____

13. $8x^2 - 28x = 120$ 13. _____

14. $2x(x - 5) = 12$ 14. _____

15. $18y^2 - 30y = 0$ 15. _____

16. $9x^2 = 12x - 4$ 16. _____

Solve.

17. The width of a rectangle is 6 meters less than the length. The area of the rectangle is 40 square meters. Find the dimensions of the rectangle. 17. _____

18. An object is thrown upward from the top of a 160 foot building with an initial velocity of 48 feet per second. The height *h* of the object after *t* seconds is given by the quadratic equation $h = -16t^2 + 48t + 160$. How long will it take for the object to hit the ground? 18. _____

Name _____ Date _____

Additional Exercises 7.6
Form II
Solving Quadratic Equations by Factoring

Solve each equation using the zero product principle.

1. $(x-7)(x-10)=0$ 1. _____

2. $(y+4)(y+12)=0$ 2. _____

3. $(5x-4)(x+9)=0$ 3. _____

4. $x(x+6)(x-7)=0$ 4. _____

5. $4x(x+3)(4x-7)=0$ 5. _____

Use factoring to solve each quadratic equation.

6. $y^2-9y+8=0$ 6. _____

7. $4x^2+13x-12=0$ 7. _____

8. $5x^2-23x=10$ 8. _____

9. $4x^2-25=0$ 9. _____

Name _____ Date _____

10. $3x^2 - 20x = 7$ 10. _____

11. $2x(4x+13) = 7$ 11. _____

12. $3x^2 = 14x + 80$ 12. _____

13. $25y^2 + 25y + 6 = 0$ 13. _____

14. $24x^2 + 42x = 0$ 14. _____

15. $x^3 + 15x = 8x^2$ 15. _____

16. $4x(x^2 + 2) = 9x^2$ 16. _____

Solve.

17. The length of a rectangle is 8 inches less than twice the width. If the area of the rectangle is 90 square inches, what are the dimensions of the rectangle? 17. _____

18. A window washer accidentally drops a bucket from the top of a 64 foot building. The height *h* of the bucket after *t* seconds is given by the quadratic equation $h = -16t^2 + 64$. When will the bucket hit the ground? 18. _____

Name _____ Date _____

Additional Exercises 7.6
Form III
Solving Quadratic Equations by Factoring

Solve each equation using the zero product principle.

1. $(7x+4)(x-2)=0$ 1. _____

2. $(x-8)(3x-10)=0$ 2. _____

3. $x(3x+15)=0$ 3. _____

4. $y(y+17)=0$ 4. _____

5. $x(5x-1)(x-8)=0$ 5. _____

Use factoring to solve each quadratic equation.

6. $5x^2-4x-9=0$ 6. _____

7. $x^2-24x=25$ 7. _____

8. $13y^2-6y=0$ 8. _____

9. $16x^2=25$ 9. _____

Name _____ Date _____

10. $4x^2 = 20x - 25$ 10. _____

11. $16x^3 + 28x^2 = 30x$ 11. _____

12. $x(3x - 5) = 28$ 12. _____

13. $x(5x + 8) = 4$ 13. _____

14. $3x^3 - 75x = 0$ 14. _____

15. $y(2y + 5) = 2(36 - y)$ 15. _____

16. $5x(x - 5) = 3(x + 4)$ 16. _____

Solve.

17. The length of a rectangle is 6 feet less than twice the width. If the area of the rectangle is 216 square feet, find the dimensions of the rectangle. 17. _____

18. If the sides of a square are increased by 2 meters, the area becomes 64 square meters. Find the length of a side of the original square. 18. _____

19. A window washer accidentally drops a bucket from the top of a 100 foot tall building. The height *h* of the bucket after *t* seconds is given by $h = -16t^2 + 100$. How long will it be before the bucket hits the ground? 19. _____

20. Each cycle of a screen saver program generates and then erases numbers of little animated figures called *froobies*. The formula $P = -2x^2 + 106x - 674$ models the population, *P*, of froobies after *x* minutes within a cycle. How many minutes into a cycle will the *froobie* population first reach 118? 20. _____