

4-5

Practice

Form G

Quadratic Equations

Solve each equation by factoring. Check your answers.

1. $x^2 - 2x - 24 = 0$

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

3. $x^2 - 6x + 9 = 0$

4. $3x^2 + 45 = 24x$

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

6. $7x^2 = 21x$

7. $(x + 2)^2 = 49$

8. $x + 3 = 24x^2$

Solve each equation using tables. Give each answer to at most two decimal places.

9. $5x^2 + 7x - 6 = 0$

10. $x^2 - 2x = 1$

11. $2x^2 - x = 5$

12. $x^2 - 4x + 2 = 0$

13. $3x^2 + 7x = 1$

14. $2x^2 - 3x = 15$

Solve each equation by graphing. Give each answer to at most two decimal places.

15. $10x^2 = 4 - 3x$

16. $3x^2 + 2x = 2$

17. $4x^2 - x = 6$

18. $4x^2 + 3x = 6 - 2x$

19. $x^2 + 4 = 6x$

20. $5 - x = \frac{1}{2}x^2$

21. A woman drops a front door key to her husband from their apartment window several stories above the ground. The function $h = -16t^2 + 64$ gives the height h of the key in feet, t seconds after she releases it.

- How long does it take the key to reach the ground?
- What are the reasonable domain and range for the function h ?

Solve each equation by factoring, using tables, or by graphing. If necessary, round your answer to the nearest hundredth.

22. $9x^2 = 49$

23. $x^2 + 10x + 17 = 0$

24. $4x^2 + 1 = 8x$

25. $5x^2 - 2x - 7 = 0$

26. $4(x^2 - x) = 19$

27. $25x^2 + 20x + 4 = 0$

28. $3x^2 = 4x + 32$

29. $x^2 - 5x - 12 = 0$