EQUATIONS

R.4 EXERCISES

Solve each equation.

1. $.2m - .5 = .1m + .7$

2. $\frac{5}{6}k - 2k + \frac{1}{3} = \frac{2}{3}$

3. $2x + 8 = x - 4$

4. $5x + 2 = 8 - 3x$

5. $3r + 2 - 5(r + 1) = 6r + 4$

6. $5(a + 3) + 4a - 5 = -(2a - 4)$

7. $2[m - (4 + 2m) + 3] = 2m + 2$

8. $4[2p - (3 - p) + 5] = -7p - 2$

Solve each of the following equations by factoring or by using the quadratic formula. If the solutions involve square roots, give both the exact solutions and the approximate solutions to three decimal places.

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

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

11. $m^2 + 16 = 8m$

12. $2k^2 - k = 10$

13. $6x^2 - 5x = 4$

14. $m(m - 7) = -10$

15. $9x^2 - 16 = 0$

16. $z(2z + 7) = 4$

17. $12y^2 - 48y = 0$

18. $3x^2 - 5x + 1 = 0$

19. $2m^2 = m + 4$

20. $p^2 + p - 1 = 0$

21. $k^2 - 10k = -20$

22. $2x^2 + 12x + 5 = 0$

23. $2r^2 - 7r + 5 = 0$

24. $2x^2 - 7x + 30 = 0$

25. $3k^2 + k = 6$

26. $5m^2 + 5m = 0$

Solve each of the following equations.

27. $\frac{3x - 2}{7} = \frac{x + 2}{5}$

28. $\frac{x}{3} - 7 = 6 - \frac{3x}{4}$

29. $\frac{4}{x - 3} - \frac{8}{2x + 5} + \frac{3}{x - 3} = 0$

30. $\frac{5}{2p + 3} - \frac{3}{p - 2} = \frac{4}{2p + 3}$

31. $\frac{2}{m} + \frac{m}{m + 3} = \frac{3m}{m^2 + 3m}$

32. $\frac{2y}{y - 1} = \frac{5}{y} + \frac{10 - 8y}{y^2 - y}$

33. $\frac{1}{x - 2} - \frac{3x}{x - 1} = \frac{2x + 1}{x^2 - 3x + 2}$

34. $\frac{5}{a} + \frac{-7}{a + 1} = \frac{a^2 - 2a + 4}{a^2 + a}$

35. $\frac{2b^2 + 5b - 8}{b^2 + 2b} + \frac{5}{b + 2} = -\frac{3}{b}$

36. $\frac{2}{x^2 - 2x - 3} + \frac{5}{x^2 - x - 6} = \frac{1}{x^2 + 3x + 2}$

37. $\frac{2}{y^2 + 7y + 12} - \frac{1}{y^2 + 5y + 6} = \frac{5}{y^2 + 6y + 8}$