

Solving Quadratic Equations (A)

Solve each equation for x

1. $-24x^2 - 52x - 25 = 3$

7. $-7x^2 - 18x + 9 = 0$

2. $30x^2 - 79x + 26 = -19$

8. $8x^2 + 17x - 6 = 15$

3. $-36x^2 + 84x - 16 = 29$

9. $6x^2 - 19x - 15 = 21$

4. $-30x^2 + 27x + 27 = 0$

10. $9x^2 + 37x - 15 = 25$

5. $8x^2 + 22x - 5 = 1$

11. $54x^2 + 93x + 33 = -7$

6. $40x^2 - 32x - 63 = 9$

12. $-36x^2 - 17x - 1 = 1$

Solving Quadratic Equations (A) Answers

Solve each equation for x

1. $-24x^2 - 52x - 25 = 3$
 $-24x^2 - 52x - 28 = 0$
 $-(4x + 4)(6x + 7) = 0$
 $x = -1, -1\frac{1}{6}$

7. $-7x^2 - 18x + 9 = 0$
 $-7x^2 - 18x + 9 = 0$
 $-(7x - 3)(x + 3) = 0$
 $x = \frac{3}{7}, -3$

2. $30x^2 - 79x + 26 = -19$
 $30x^2 - 79x + 45 = 0$
 $(5x - 9)(6x - 5) = 0$
 $x = 1\frac{4}{5}, \frac{5}{6}$

8. $8x^2 + 17x - 6 = 15$
 $8x^2 + 17x - 21 = 0$
 $(x + 3)(8x - 7) = 0$
 $x = -3, \frac{7}{8}$

3. $-36x^2 + 84x - 16 = 29$
 $-36x^2 + 84x - 45 = 0$
 $(6x - 9)(6x - 5) = 0$
 $x = 1\frac{1}{2}, \frac{5}{6}$

9. $6x^2 - 19x - 15 = 21$
 $6x^2 - 19x - 36 = 0$
 $(3x + 4)(2x - 9) = 0$
 $x = -1\frac{1}{3}, 4\frac{1}{2}$

4. $-30x^2 + 27x + 27 = 0$
 $-30x^2 + 27x + 27 = 0$
 $-(5x + 3)(6x - 9) = 0$
 $x = -\frac{3}{5}, 1\frac{1}{2}$

10. $9x^2 + 37x - 15 = 25$
 $9x^2 + 37x - 40 = 0$
 $(9x - 8)(x + 5) = 0$
 $x = \frac{8}{9}, -5$

5. $8x^2 + 22x - 5 = 1$
 $8x^2 + 22x - 6 = 0$
 $(2x + 6)(4x - 1) = 0$
 $x = -3, \frac{1}{4}$

11. $54x^2 + 93x + 33 = -7$
 $54x^2 + 93x + 40 = 0$
 $(6x + 5)(9x + 8) = 0$
 $x = -\frac{5}{6}, -\frac{8}{9}$

6. $40x^2 - 32x - 63 = 9$
 $40x^2 - 32x - 72 = 0$
 $(5x - 9)(8x + 8) = 0$
 $x = 1\frac{4}{5}, -1$

12. $-36x^2 - 17x - 1 = 1$
 $-36x^2 - 17x - 2 = 0$
 $-(4x + 1)(9x + 2) = 0$
 $x = -\frac{1}{4}, -\frac{2}{9}$

Solving Quadratic Equations (B)

Solve each equation for x

1. $36x^2 + 18x - 1 = 3$

7. $-8x^2 + 6x + 1 = -1$

2. $-12x^2 - 3x + 26 = -28$

8. $-36x^2 - 48x + 20 = -28$

3. $-12x^2 - 35x - 10 = 8$

9. $18x^2 + 49x - 28 = 21$

4. $-48x^2 - 68x - 18 = 6$

10. $-30x^2 + 46x - 2 = 10$

5. $72x^2 - 15x - 22 = 20$

11. $-8x^2 - 25x - 4 = 14$

6. $24x^2 + 24x + 1 = -5$

12. $64x^2 + 112x + 9 = -36$

Solving Quadratic Equations (B) Answers

Solve each equation for x

1. $36x^2 + 18x - 1 = 3$
 $36x^2 + 18x - 4 = 0$
 $(6x - 1)(6x + 4) = 0$
 $x = 1/6, -2/3$

2. $-12x^2 - 3x + 26 = -28$
 $-12x^2 - 3x + 54 = 0$
 $(4x + 9)(3x - 6) = 0$
 $x = -2\frac{1}{4}, 2$

3. $-12x^2 - 35x - 10 = 8$
 $-12x^2 - 35x - 18 = 0$
 $(3x + 2)(4x + 9) = 0$
 $x = -2/3, -2\frac{1}{4}$

4. $-48x^2 - 68x - 18 = 6$
 $-48x^2 - 68x - 24 = 0$
 $-(8x + 6)(6x + 4) = 0$
 $x = -3/4, -2/3$

5. $72x^2 - 15x - 22 = 20$
 $72x^2 - 15x - 42 = 0$
 $(9x + 6)(8x - 7) = 0$
 $x = -2/3, 7/8$

6. $24x^2 + 24x + 1 = -5$
 $24x^2 + 24x + 6 = 0$
 $(6x + 3)(4x + 2) = 0$
 $x = -1/2$

7. $-8x^2 + 6x + 1 = -1$
 $-8x^2 + 6x + 2 = 0$
 $-(2x - 2)(4x + 1) = 0$
 $x = 1, -1/4$

8. $-36x^2 - 48x + 20 = -28$
 $-36x^2 - 48x + 48 = 0$
 $-(9x - 6)(4x + 8) = 0$
 $x = 2/3, -2$

9. $18x^2 + 49x - 28 = 21$
 $18x^2 + 49x - 49 = 0$
 $(2x + 7)(9x - 7) = 0$
 $x = -3\frac{1}{2}, 7/9$

10. $-30x^2 + 46x - 2 = 10$
 $-30x^2 + 46x - 12 = 0$
 $-(5x - 6)(6x - 2) = 0$
 $x = 1\frac{1}{5}, 1/3$

11. $-8x^2 - 25x - 4 = 14$
 $-8x^2 - 25x - 18 = 0$
 $-(8x + 9)(x + 2) = 0$
 $x = -1\frac{1}{8}, -2$

12. $64x^2 + 112x + 9 = -36$
 $64x^2 + 112x + 45 = 0$
 $(8x + 5)(8x + 9) = 0$
 $x = -5/8, -1\frac{1}{8}$

Solving Quadratic Equations (C)

Solve each equation for x

1. $10x^2 - 15x - 4 = 21$

7. $-36x^2 + 36x = -16$

2. $16x^2 - 24x + 1 = -7$

8. $32x^2 - 104x + 72 = 0$

3. $-12x^2 + 3x + 6 = -3$

9. $8x^2 + 50x - 40 = 2$

4. $72x^2 - 14x - 24 = 6$

10. $54x^2 + 24x - 31 = 33$

5. $-36x^2 + 8x + 4 = -24$

11. $-63x^2 + 6x + 3 = -6$

6. $-6x^2 + 11x + 7 = -65$

12. $36x^2 + 36x + 5 = -3$

Solving Quadratic Equations (C) Answers

Solve each equation for x

1. $10x^2 - 15x - 4 = 21$
 $10x^2 - 15x - 25 = 0$
 $(5x + 5)(2x - 5) = 0$
 $x = -1, 2 \frac{1}{2}$

2. $16x^2 - 24x + 1 = -7$
 $16x^2 - 24x + 8 = 0$
 $(4x - 2)(4x - 4) = 0$
 $x = \frac{1}{2}, 1$

3. $-12x^2 + 3x + 6 = -3$
 $-12x^2 + 3x + 9 = 0$
 $(3x - 3)(4x + 3) = 0$
 $x = 1, -\frac{3}{4}$

4. $72x^2 - 14x - 24 = 6$
 $72x^2 - 14x - 30 = 0$
 $(8x - 6)(9x + 5) = 0$
 $x = \frac{3}{4}, -\frac{5}{9}$

5. $-36x^2 + 8x + 4 = -24$
 $-36x^2 + 8x + 28 = 0$
 $(9x + 7)(4x - 4) = 0$
 $x = -\frac{7}{9}, 1$

6. $-6x^2 + 11x + 7 = -65$
 $-6x^2 + 11x + 72 = 0$
 $(3x + 8)(2x - 9) = 0$
 $x = -2 \frac{2}{3}, 4 \frac{1}{2}$

7. $-36x^2 + 36x = -16$
 $-36x^2 + 36x + 16 = 0$
 $-(6x - 8)(6x + 2) = 0$
 $x = 1 \frac{1}{3}, -\frac{1}{3}$

8. $32x^2 - 104x + 72 = 0$
 $32x^2 - 104x + 72 = 0$
 $(4x - 9)(8x - 8) = 0$
 $x = 2 \frac{1}{4}, 1$

9. $8x^2 + 50x - 40 = 2$
 $8x^2 + 50x - 42 = 0$
 $(x + 7)(8x - 6) = 0$
 $x = -7, \frac{3}{4}$

10. $54x^2 + 24x - 31 = 33$
 $54x^2 + 24x - 64 = 0$
 $(6x + 8)(9x - 8) = 0$
 $x = -1 \frac{1}{3}, \frac{8}{9}$

11. $-63x^2 + 6x + 3 = -6$
 $-63x^2 + 6x + 9 = 0$
 $-(9x + 3)(7x - 3) = 0$
 $x = -\frac{1}{3}, \frac{3}{7}$

12. $36x^2 + 36x + 5 = -3$
 $36x^2 + 36x + 8 = 0$
 $(6x + 4)(6x + 2) = 0$
 $x = -\frac{2}{3}, -\frac{1}{3}$

Solving Quadratic Equations (D)

Solve each equation for x

1. $-18x^2 + 24x - 4 = 2$

7. $-63x^2 + 71x - 1 = 19$

2. $27x^2 + 66x + 3 = -4$

8. $16x^2 + 36x - 6 = 4$

3. $-36x^2 - 62x - 5 = 7$

9. $-49x^2 + 7x = -6$

4. $-8x^2 - 37x - 6 = 14$

10. $-5x^2 - 37x + 15 = -9$

5. $48x^2 + 112x + 45 = -19$

11. $-28x^2 + 33x + 25 = -3$

6. $63x^2 + 39x - 28 = 26$

12. $8x^2 - 33x + 13 = -14$

Solving Quadratic Equations (D) Answers

Solve each equation for x

1. $-18x^2 + 24x - 4 = 2$
 $-18x^2 + 24x - 6 = 0$
 $-(3x - 1)(6x - 6) = 0$
 $x = 1/3, 1$

2. $27x^2 + 66x + 3 = -4$
 $27x^2 + 66x + 7 = 0$
 $(9x + 1)(3x + 7) = 0$
 $x = -1/9, -2\ 1/3$

3. $-36x^2 - 62x - 5 = 7$
 $-36x^2 - 62x - 12 = 0$
 $(9x + 2)(4x + 6) = 0$
 $x = -2/9, -1\ 1/2$

4. $-8x^2 - 37x - 6 = 14$
 $-8x^2 - 37x - 20 = 0$
 $-(8x + 5)(x + 4) = 0$
 $x = -5/8, -4$

5. $48x^2 + 112x + 45 = -19$
 $48x^2 + 112x + 64 = 0$
 $(6x + 8)(8x + 8) = 0$
 $x = -1\ 1/3, -1$

6. $63x^2 + 39x - 28 = 26$
 $63x^2 + 39x - 54 = 0$
 $(9x - 6)(7x + 9) = 0$
 $x = 2/3, -1\ 2/7$

7. $-63x^2 + 71x - 1 = 19$
 $-63x^2 + 71x - 20 = 0$
 $-(9x - 5)(7x - 4) = 0$
 $x = 5/9, 4/7$

8. $16x^2 + 36x - 6 = 4$
 $16x^2 + 36x - 10 = 0$
 $(2x + 5)(8x - 2) = 0$
 $x = -2\ 1/2, 1/4$

9. $-49x^2 + 7x = -6$
 $-49x^2 + 7x + 6 = 0$
 $-(7x + 2)(7x - 3) = 0$
 $x = -2/7, 3/7$

10. $-5x^2 - 37x + 15 = -9$
 $-5x^2 - 37x + 24 = 0$
 $-(x + 8)(5x - 3) = 0$
 $x = -8, 3/5$

11. $-28x^2 + 33x + 25 = -3$
 $-28x^2 + 33x + 28 = 0$
 $-(4x - 7)(7x + 4) = 0$
 $x = 1\ 3/4, -4/7$

12. $8x^2 - 33x + 13 = -14$
 $8x^2 - 33x + 27 = 0$
 $(x - 3)(8x - 9) = 0$
 $x = 3, 1\ 1/8$

Solving Quadratic Equations (E)

Solve each equation for x

1. $-7x^2 - 15x - 7 = 1$

7. $21x^2 + x - 1 = 1$

2. $-6x^2 - 40x = -64$

8. $-9x^2 + 25x - 6 = 8$

3. $16x^2 + 82x + 40 = -5$

9. $6x^2 - 9x - 51 = 30$

4. $64x^2 - 72x + 3 = -5$

10. $-30x^2 - 28x - 4 = 2$

5. $x^2 + x - 5 = 7$

11. $5x^2 - 22x + 18 = -3$

6. $-36x^2 + 78x - 5 = 37$

12. $18x^2 + 80x + 1 = -31$

Solving Quadratic Equations (E) Answers

Solve each equation for x

1. $-7x^2 - 15x - 7 = 1$
 $-7x^2 - 15x - 8 = 0$
 $-(x + 1)(7x + 8) = 0$
 $x = -1, -1 \frac{1}{7}$

2. $-6x^2 - 40x = -64$
 $-6x^2 - 40x + 64 = 0$
 $(6x - 8)(x + 8) = 0$
 $x = 1 \frac{1}{3}, -8$

3. $16x^2 + 82x + 40 = -5$
 $16x^2 + 82x + 45 = 0$
 $(2x + 9)(8x + 5) = 0$
 $x = -4 \frac{1}{2}, -\frac{5}{8}$

4. $64x^2 - 72x + 3 = -5$
 $64x^2 - 72x + 8 = 0$
 $(8x - 8)(8x - 1) = 0$
 $x = 1, \frac{1}{8}$

5. $x^2 + x - 5 = 7$
 $x^2 + x - 12 = 0$
 $(x - 3)(x + 4) = 0$
 $x = 3, -4$

6. $-36x^2 + 78x - 5 = 37$
 $-36x^2 + 78x - 42 = 0$
 $(6x - 6)(6x - 7) = 0$
 $x = 1, 1 \frac{1}{6}$

7. $21x^2 + x - 1 = 1$
 $21x^2 + x - 2 = 0$
 $(3x + 1)(7x - 2) = 0$
 $x = -\frac{1}{3}, \frac{2}{7}$

8. $-9x^2 + 25x - 6 = 8$
 $-9x^2 + 25x - 14 = 0$
 $-(x - 2)(9x - 7) = 0$
 $x = 2, \frac{7}{9}$

9. $6x^2 - 9x - 51 = 30$
 $6x^2 - 9x - 81 = 0$
 $(3x + 9)(2x - 9) = 0$
 $x = -3, 4 \frac{1}{2}$

10. $-30x^2 - 28x - 4 = 2$
 $-30x^2 - 28x - 6 = 0$
 $-(5x + 3)(6x + 2) = 0$
 $x = -\frac{3}{5}, -\frac{1}{3}$

11. $5x^2 - 22x + 18 = -3$
 $5x^2 - 22x + 21 = 0$
 $(x - 3)(5x - 7) = 0$
 $x = 3, 1 \frac{2}{5}$

12. $18x^2 + 80x + 1 = -31$
 $18x^2 + 80x + 32 = 0$
 $(2x + 8)(9x + 4) = 0$
 $x = -4, -\frac{4}{9}$

Solving Quadratic Equations (F)

Solve each equation for x

1. $-42x^2 - 62x - 9 = 7$

7. $-12x^2 + 40x - 22 = 10$

2. $36x^2 + 53x - 23 = 40$

8. $21x^2 + 39x - 4 = 2$

3. $56x^2 + 21x - 12 = 23$

9. $2x^2 + 16x + 11 = -3$

4. $-16x^2 + 14x + 1 = -1$

10. $-36x^2 - 73x = -18$

5. $40x^2 - 43x - 3 = 3$

11. $-40x^2 + 44x + 15 = -17$

6. $-6x^2 - 32x + 16 = -8$

12. $10x^2 - 30x = -20$

Solving Quadratic Equations (F) Answers

Solve each equation for x

1. $-42x^2 - 62x - 9 = 7$
 $-42x^2 - 62x - 16 = 0$
 $-(6x + 2)(7x + 8) = 0$
 $x = -1/3, -1\ 1/7$

2. $36x^2 + 53x - 23 = 40$
 $36x^2 + 53x - 63 = 0$
 $(9x - 7)(4x + 9) = 0$
 $x = 7/9, -2\ 1/4$

3. $56x^2 + 21x - 12 = 23$
 $56x^2 + 21x - 35 = 0$
 $(8x - 5)(7x + 7) = 0$
 $x = 5/8, -1$

4. $-16x^2 + 14x + 1 = -1$
 $-16x^2 + 14x + 2 = 0$
 $-(2x - 2)(8x + 1) = 0$
 $x = 1, -1/8$

5. $40x^2 - 43x - 3 = 3$
 $40x^2 - 43x - 6 = 0$
 $(8x + 1)(5x - 6) = 0$
 $x = -1/8, 1\ 1/5$

6. $-6x^2 - 32x + 16 = -8$
 $-6x^2 - 32x + 24 = 0$
 $(x + 6)(6x - 4) = 0$
 $x = -6, 2/3$

7. $-12x^2 + 40x - 22 = 10$
 $-12x^2 + 40x - 32 = 0$
 $-(4x - 8)(3x - 4) = 0$
 $x = 2, 1\ 1/3$

8. $21x^2 + 39x - 4 = 2$
 $21x^2 + 39x - 6 = 0$
 $(7x - 1)(3x + 6) = 0$
 $x = 1/7, -2$

9. $2x^2 + 16x + 11 = -3$
 $2x^2 + 16x + 14 = 0$
 $(x + 7)(2x + 2) = 0$
 $x = -7, -1$

10. $-36x^2 - 73x = -18$
 $-36x^2 - 73x + 18 = 0$
 $-(4x + 9)(9x - 2) = 0$
 $x = -2\ 1/4, 2/9$

11. $-40x^2 + 44x + 15 = -17$
 $-40x^2 + 44x + 32 = 0$
 $-(5x - 8)(8x + 4) = 0$
 $x = 1\ 3/5, -1/2$

12. $10x^2 - 30x = -20$
 $10x^2 - 30x + 20 = 0$
 $(5x - 5)(2x - 4) = 0$
 $x = 1, 2$

Solving Quadratic Equations (G)

Solve each equation for x

1. $12x^2 + 10x - 5 = 7$

7. $-9x^2 - 66x + 28 = -20$

2. $45x^2 - 36x - 43 = 38$

8. $-6x^2 - 40x = -14$

3. $-4x^2 - 8x - 2 = 1$

9. $-8x^2 + 32x - 9 = 21$

4. $-2x^2 - 15x - 7 = 11$

10. $24x^2 - 67x + 30 = -15$

5. $-18x^2 + 63x - 31 = 14$

11. $36x^2 - 28x - 2 = 6$

6. $54x^2 - 54x - 20 = 4$

12. $-42x^2 + 26x - 3 = 1$

Solving Quadratic Equations (G) Answers

Solve each equation for x

1. $12x^2 + 10x - 5 = 7$
 $12x^2 + 10x - 12 = 0$
 $(6x - 4)(2x + 3) = 0$
 $x = 2/3, -1 \frac{1}{2}$

2. $45x^2 - 36x - 43 = 38$
 $45x^2 - 36x - 81 = 0$
 $(9x + 9)(5x - 9) = 0$
 $x = -1, 1 \frac{4}{5}$

3. $-4x^2 - 8x - 2 = 1$
 $-4x^2 - 8x - 3 = 0$
 $(2x + 1)(2x + 3) = 0$
 $x = -1/2, -1 \frac{1}{2}$

4. $-2x^2 - 15x - 7 = 11$
 $-2x^2 - 15x - 18 = 0$
 $-(x + 6)(2x + 3) = 0$
 $x = -6, -1 \frac{1}{2}$

5. $-18x^2 + 63x - 31 = 14$
 $-18x^2 + 63x - 45 = 0$
 $(9x - 9)(2x - 5) = 0$
 $x = 1, 2 \frac{1}{2}$

6. $54x^2 - 54x - 20 = 4$
 $54x^2 - 54x - 24 = 0$
 $(9x + 3)(6x - 8) = 0$
 $x = -1/3, 1 \frac{1}{3}$

7. $-9x^2 - 66x + 28 = -20$
 $-9x^2 - 66x + 48 = 0$
 $-(9x - 6)(x + 8) = 0$
 $x = 2/3, -8$

8. $-6x^2 - 40x = -14$
 $-6x^2 - 40x + 14 = 0$
 $-(x + 7)(6x - 2) = 0$
 $x = -7, 1/3$

9. $-8x^2 + 32x - 9 = 21$
 $-8x^2 + 32x - 30 = 0$
 $-(2x - 5)(4x - 6) = 0$
 $x = 2 \frac{1}{2}, 1 \frac{1}{2}$

10. $24x^2 - 67x + 30 = -15$
 $24x^2 - 67x + 45 = 0$
 $(8x - 9)(3x - 5) = 0$
 $x = 1 \frac{1}{8}, 1 \frac{2}{3}$

11. $36x^2 - 28x - 2 = 6$
 $36x^2 - 28x - 8 = 0$
 $(4x - 4)(9x + 2) = 0$
 $x = 1, -2/9$

12. $-42x^2 + 26x - 3 = 1$
 $-42x^2 + 26x - 4 = 0$
 $-(7x - 2)(6x - 2) = 0$
 $x = 2/7, 1/3$

Solving Quadratic Equations (H)

Solve each equation for x

1. $6x^2 - 53x - 8 = 1$

7. $-9x^2 + 18x + 7 = -20$

2. $14x^2 - 14x - 20 = 8$

8. $12x^2 + 58x + 56 = 0$

3. $36x^2 - 34x - 2 = 28$

9. $5x^2 - 21x + 12 = -6$

4. $24x^2 - 38x + 2 = -8$

10. $-64x^2 - 96x - 12 = 20$

5. $-7x^2 + 52x - 20 = 1$

11. $-4x^2 + 4x + 48 = 0$

6. $8x^2 - 36x - 9 = 11$

12. $-2x^2 - 25x - 68 = 4$

Solving Quadratic Equations (H) Answers

Solve each equation for x

1. $6x^2 - 53x - 8 = 1$
 $6x^2 - 53x - 9 = 0$
 $(x - 9)(6x + 1) = 0$
 $x = 9, -1/6$

2. $14x^2 - 14x - 20 = 8$
 $14x^2 - 14x - 28 = 0$
 $(7x + 7)(2x - 4) = 0$
 $x = -1, 2$

3. $36x^2 - 34x - 2 = 28$
 $36x^2 - 34x - 30 = 0$
 $(9x + 5)(4x - 6) = 0$
 $x = -5/9, 1\ 1/2$

4. $24x^2 - 38x + 2 = -8$
 $24x^2 - 38x + 10 = 0$
 $(6x - 2)(4x - 5) = 0$
 $x = 1/3, 1\ 1/4$

5. $-7x^2 + 52x - 20 = 1$
 $-7x^2 + 52x - 21 = 0$
 $(x - 7)(7x - 3) = 0$
 $x = 7, 3/7$

6. $8x^2 - 36x - 9 = 11$
 $8x^2 - 36x - 20 = 0$
 $(x - 5)(8x + 4) = 0$
 $x = 5, -1/2$

7. $-9x^2 + 18x + 7 = -20$
 $-9x^2 + 18x + 27 = 0$
 $-(9x + 9)(x - 3) = 0$
 $x = -1, 3$

8. $12x^2 + 58x + 56 = 0$
 $12x^2 + 58x + 56 = 0$
 $(6x + 8)(2x + 7) = 0$
 $x = -1\ 1/3, -3\ 1/2$

9. $5x^2 - 21x + 12 = -6$
 $5x^2 - 21x + 18 = 0$
 $(5x - 6)(x - 3) = 0$
 $x = 1\ 1/5, 3$

10. $-64x^2 - 96x - 12 = 20$
 $-64x^2 - 96x - 32 = 0$
 $-(8x + 4)(8x + 8) = 0$
 $x = -1/2, -1$

11. $-4x^2 + 4x + 48 = 0$
 $-4x^2 + 4x + 48 = 0$
 $-(2x + 6)(2x - 8) = 0$
 $x = -3, 4$

12. $-2x^2 - 25x - 68 = 4$
 $-2x^2 - 25x - 72 = 0$
 $-(x + 8)(2x + 9) = 0$
 $x = -8, -4\ 1/2$

Solving Quadratic Equations (I)

Solve each equation for x

1. $-27x^2 - 60x - 13 = 19$

7. $-56x^2 - 48x + 8 = 0$

2. $-2x^2 + 17x = -9$

8. $48x^2 + 10x - 6 = 19$

3. $20x^2 + 8x - 4 = 8$

9. $-28x^2 - 26x - 3 = 3$

4. $32x^2 - 44x - 2 = 4$

10. $6x^2 - 21x + 9 = 0$

5. $-x^2 - 3x - 1 = 1$

11. $-x^2 - 6x - 2 = 3$

6. $x^2 + x - 1 = 5$

12. $2x^2 + 16x - 14 = 4$

Solving Quadratic Equations (I) Answers

Solve each equation for x

1. $-27x^2 - 60x - 13 = 19$
 $-27x^2 - 60x - 32 = 0$
 $-(3x + 4)(9x + 8) = 0$
 $x = -1 \frac{1}{3}, -\frac{8}{9}$

2. $-2x^2 + 17x = -9$
 $-2x^2 + 17x + 9 = 0$
 $(x - 9)(2x + 1) = 0$
 $x = 9, -\frac{1}{2}$

3. $20x^2 + 8x - 4 = 8$
 $20x^2 + 8x - 12 = 0$
 $(4x + 4)(5x - 3) = 0$
 $x = -1, \frac{3}{5}$

4. $32x^2 - 44x - 2 = 4$
 $32x^2 - 44x - 6 = 0$
 $(4x - 6)(8x + 1) = 0$
 $x = 1 \frac{1}{2}, -\frac{1}{8}$

5. $-x^2 - 3x - 1 = 1$
 $-x^2 - 3x - 2 = 0$
 $(x + 2)(x + 1) = 0$
 $x = -2, -1$

6. $x^2 + x - 1 = 5$
 $x^2 + x - 6 = 0$
 $(x - 2)(x + 3) = 0$
 $x = 2, -3$

7. $-56x^2 - 48x + 8 = 0$
 $-56x^2 - 48x + 8 = 0$
 $-(7x - 1)(8x + 8) = 0$
 $x = \frac{1}{7}, -1$

8. $48x^2 + 10x - 6 = 19$
 $48x^2 + 10x - 25 = 0$
 $(6x + 5)(8x - 5) = 0$
 $x = -\frac{5}{6}, \frac{5}{8}$

9. $-28x^2 - 26x - 3 = 3$
 $-28x^2 - 26x - 6 = 0$
 $-(4x + 2)(7x + 3) = 0$
 $x = -\frac{1}{2}, -\frac{3}{7}$

10. $6x^2 - 21x + 9 = 0$
 $6x^2 - 21x + 9 = 0$
 $(x - 3)(6x - 3) = 0$
 $x = 3, \frac{1}{2}$

11. $-x^2 - 6x - 2 = 3$
 $-x^2 - 6x - 5 = 0$
 $-(x + 1)(x + 5) = 0$
 $x = -1, -5$

12. $2x^2 + 16x - 14 = 4$
 $2x^2 + 16x - 18 = 0$
 $(x + 9)(2x - 2) = 0$
 $x = -9, 1$

Solving Quadratic Equations (J)

Solve each equation for x

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

7. $-3x^2 + 24x + 22 = -5$

2. $64x^2 + 24x + 2 = 0$

8. $-27x^2 - 60x + 12 = -20$

3. $-36x^2 + 37x + 8 = -2$

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

4. $-42x^2 - 9x + 6 = -9$

10. $-35x^2 + 33x - 3 = 1$

5. $-28x^2 - 55x + 7 = -11$

11. $56x^2 - 99x + 1 = -39$

6. $40x^2 + 26x - 11 = 31$

12. $12x^2 - 26x - 2 = 8$

Solving Quadratic Equations (J) Answers

Solve each equation for x

1. $-7x^2 - 13x - 3 = 3$
 $-7x^2 - 13x - 6 = 0$
 $-(7x + 6)(x + 1) = 0$
 $x = -6/7, -1$

2. $64x^2 + 24x + 2 = 0$
 $64x^2 + 24x + 2 = 0$
 $(8x + 2)(8x + 1) = 0$
 $x = -1/4, -1/8$

3. $-36x^2 + 37x + 8 = -2$
 $-36x^2 + 37x + 10 = 0$
 $(4x - 5)(9x + 2) = 0$
 $x = 1\ 1/4, -2/9$

4. $-42x^2 - 9x + 6 = -9$
 $-42x^2 - 9x + 15 = 0$
 $-(7x + 5)(6x - 3) = 0$
 $x = -5/7, 1/2$

5. $-28x^2 - 55x + 7 = -11$
 $-28x^2 - 55x + 18 = 0$
 $(4x + 9)(7x - 2) = 0$
 $x = -2\ 1/4, 2/7$

6. $40x^2 + 26x - 11 = 31$
 $40x^2 + 26x - 42 = 0$
 $(8x - 6)(5x + 7) = 0$
 $x = 3/4, -1\ 2/5$

7. $-3x^2 + 24x + 22 = -5$
 $-3x^2 + 24x + 27 = 0$
 $-(x - 9)(3x + 3) = 0$
 $x = 9, -1$

8. $-27x^2 - 60x + 12 = -20$
 $-27x^2 - 60x + 32 = 0$
 $-(3x + 8)(9x - 4) = 0$
 $x = -2\ 2/3, 4/9$

9. $-4x^2 + 12x - 4 = 4$
 $-4x^2 + 12x - 8 = 0$
 $-(2x - 2)(2x - 4) = 0$
 $x = 1, 2$

10. $-35x^2 + 33x - 3 = 1$
 $-35x^2 + 33x - 4 = 0$
 $-(7x - 1)(5x - 4) = 0$
 $x = 1/7, 4/5$

11. $56x^2 - 99x + 1 = -39$
 $56x^2 - 99x + 40 = 0$
 $(8x - 5)(7x - 8) = 0$
 $x = 5/8, 1\ 1/7$

12. $12x^2 - 26x - 2 = 8$
 $12x^2 - 26x - 10 = 0$
 $(6x + 2)(2x - 5) = 0$
 $x = -1/3, 2\ 1/2$