

Solving Quadratic Equations (A)

Name: _____

Date: _____

Solve each equation for x.

1. $9x^2 + 88x + 63 = 0$

11. $7x^2 + 10x - 8 = 0$

2. $81x^2 + 117x + 40 = 0$

12. $9x^2 - 18x + 5 = 0$

3. $10x^2 - 37x + 30 = 0$

13. $9x^2 + 23x - 12 = 0$

4. $12x^2 - 28x - 49 = 0$

14. $5x^2 - 7x + 2 = 0$

5. $27x^2 + 48x + 5 = 0$

15. $48x^2 - 82x + 35 = 0$

6. $4x^2 - 81 = 0$

16. $54x^2 - 21x - 20 = 0$

7. $24x^2 + 50x - 9 = 0$

17. $24x^2 + 49x + 15 = 0$

8. $8x^2 - 53x + 30 = 0$

18. $36x^2 - 91x + 49 = 0$

9. $5x^2 + 12x + 7 = 0$

19. $54x^2 + 57x - 7 = 0$

10. $5x^2 - 9x + 4 = 0$

20. $40x^2 - 77x + 9 = 0$

Solving Quadratic Equations (A) Answers

Name: _____

Date: _____

Solve each equation for x.

- $9x^2 + 88x + 63 = 0$
 $(x + 9)(9x + 7) = 0$
 $x = -9, -\frac{7}{9}$
- $81x^2 + 117x + 40 = 0$
 $(9x + 8)(9x + 5) = 0$
 $x = -\frac{8}{9}, -\frac{5}{9}$
- $10x^2 - 37x + 30 = 0$
 $(5x - 6)(2x - 5) = 0$
 $x = 1\frac{1}{5}, 2\frac{1}{2}$
- $12x^2 - 28x - 49 = 0$
 $(2x - 7)(6x + 7) = 0$
 $x = 3\frac{1}{2}, -1\frac{1}{6}$
- $27x^2 + 48x + 5 = 0$
 $(3x + 5)(9x + 1) = 0$
 $x = -1\frac{2}{3}, -\frac{1}{9}$
- $4x^2 - 81 = 0$
 $(2x - 9)(2x + 9) = 0$
 $x = 4\frac{1}{2}, -4\frac{1}{2}$
- $24x^2 + 50x - 9 = 0$
 $(4x + 9)(6x - 1) = 0$
 $x = -2\frac{1}{4}, \frac{1}{6}$
- $8x^2 - 53x + 30 = 0$
 $(x - 6)(8x - 5) = 0$
 $x = 6, \frac{5}{8}$
- $5x^2 + 12x + 7 = 0$
 $(x + 1)(5x + 7) = 0$
 $x = -1, -1\frac{2}{5}$
- $5x^2 - 9x + 4 = 0$
 $(x - 1)(5x - 4) = 0$
 $x = 1, \frac{4}{5}$
- $7x^2 + 10x - 8 = 0$
 $(x + 2)(7x - 4) = 0$
 $x = -2, \frac{4}{7}$
- $9x^2 - 18x + 5 = 0$
 $(3x - 5)(3x - 1) = 0$
 $x = 1\frac{2}{3}, \frac{1}{3}$
- $9x^2 + 23x - 12 = 0$
 $(9x - 4)(x + 3) = 0$
 $x = \frac{4}{9}, -3$
- $5x^2 - 7x + 2 = 0$
 $(x - 1)(5x - 2) = 0$
 $x = 1, \frac{2}{5}$
- $48x^2 - 82x + 35 = 0$
 $(8x - 7)(6x - 5) = 0$
 $x = \frac{7}{8}, \frac{5}{6}$
- $54x^2 - 21x - 20 = 0$
 $(6x - 5)(9x + 4) = 0$
 $x = \frac{5}{6}, -\frac{4}{9}$
- $24x^2 + 49x + 15 = 0$
 $(3x + 5)(8x + 3) = 0$
 $x = -1\frac{2}{3}, -\frac{3}{8}$
- $36x^2 - 91x + 49 = 0$
 $(9x - 7)(4x - 7) = 0$
 $x = \frac{7}{9}, 1\frac{3}{4}$
- $54x^2 + 57x - 7 = 0$
 $(9x - 1)(6x + 7) = 0$
 $x = \frac{1}{9}, -1\frac{1}{6}$
- $40x^2 - 77x + 9 = 0$
 $(5x - 9)(8x - 1) = 0$
 $x = 1\frac{4}{5}, \frac{1}{8}$

Solving Quadratic Equations (B)

Name: _____

Date: _____

Solve each equation for x.

1. $9x^2 - 77x + 40 = 0$

11. $8x^2 - 5x - 3 = 0$

2. $24x^2 + 19x - 9 = 0$

12. $35x^2 - 71x + 24 = 0$

3. $15x^2 + 2x - 24 = 0$

13. $16x^2 + 82x + 45 = 0$

4. $48x^2 - 22x - 5 = 0$

14. $18x^2 - 13x + 2 = 0$

5. $16x^2 + 24x - 27 = 0$

15. $16x^2 - 1 = 0$

6. $32x^2 + 20x - 25 = 0$

16. $12x^2 - 19x - 21 = 0$

7. $24x^2 + 11x + 1 = 0$

17. $27x^2 - 30x + 7 = 0$

8. $42x^2 - 61x + 14 = 0$

18. $30x^2 - 19x - 5 = 0$

9. $14x^2 - 9x + 1 = 0$

19. $36x^2 - 12x + 1 = 0$

10. $18x^2 - 25x + 8 = 0$

20. $21x^2 + 20x - 9 = 0$

Solving Quadratic Equations (B) Answers

Name: _____

Date: _____

Solve each equation for x.

- $9x^2 - 77x + 40 = 0$
 $(x - 8)(9x - 5) = 0$
 $x = 8, \frac{5}{9}$
- $24x^2 + 19x - 9 = 0$
 $(3x - 1)(8x + 9) = 0$
 $x = \frac{1}{3}, -1\frac{1}{8}$
- $15x^2 + 2x - 24 = 0$
 $(3x + 4)(5x - 6) = 0$
 $x = -1\frac{1}{3}, 1\frac{1}{5}$
- $48x^2 - 22x - 5 = 0$
 $(6x + 1)(8x - 5) = 0$
 $x = -\frac{1}{6}, \frac{5}{8}$
- $16x^2 + 24x - 27 = 0$
 $(4x - 3)(4x + 9) = 0$
 $x = \frac{3}{4}, -2\frac{1}{4}$
- $32x^2 + 20x - 25 = 0$
 $(8x - 5)(4x + 5) = 0$
 $x = \frac{5}{8}, -1\frac{1}{4}$
- $24x^2 + 11x + 1 = 0$
 $(3x + 1)(8x + 1) = 0$
 $x = -\frac{1}{3}, -\frac{1}{8}$
- $42x^2 - 61x + 14 = 0$
 $(7x - 2)(6x - 7) = 0$
 $x = \frac{2}{7}, 1\frac{1}{6}$
- $14x^2 - 9x + 1 = 0$
 $(2x - 1)(7x - 1) = 0$
 $x = \frac{1}{2}, \frac{1}{7}$
- $18x^2 - 25x + 8 = 0$
 $(9x - 8)(2x - 1) = 0$
 $x = \frac{8}{9}, \frac{1}{2}$
- $8x^2 - 5x - 3 = 0$
 $(8x + 3)(x - 1) = 0$
 $x = -\frac{3}{8}, 1$
- $35x^2 - 71x + 24 = 0$
 $(5x - 8)(7x - 3) = 0$
 $x = 1\frac{3}{5}, \frac{3}{7}$
- $16x^2 + 82x + 45 = 0$
 $(8x + 5)(2x + 9) = 0$
 $x = -\frac{5}{8}, -4\frac{1}{2}$
- $18x^2 - 13x + 2 = 0$
 $(9x - 2)(2x - 1) = 0$
 $x = \frac{2}{9}, \frac{1}{2}$
- $16x^2 - 1 = 0$
 $(4x + 1)(4x - 1) = 0$
 $x = -\frac{1}{4}, \frac{1}{4}$
- $12x^2 - 19x - 21 = 0$
 $(4x + 3)(3x - 7) = 0$
 $x = -\frac{3}{4}, 2\frac{1}{3}$
- $27x^2 - 30x + 7 = 0$
 $(3x - 1)(9x - 7) = 0$
 $x = \frac{1}{3}, \frac{7}{9}$
- $30x^2 - 19x - 5 = 0$
 $(5x + 1)(6x - 5) = 0$
 $x = -\frac{1}{5}, \frac{5}{6}$
- $36x^2 - 12x + 1 = 0$
 $(6x - 1)(6x - 1) = (6x - 1)^2 = 0$
 $x = \frac{1}{6}$
- $21x^2 + 20x - 9 = 0$
 $(7x + 9)(3x - 1) = 0$
 $x = -1\frac{2}{7}, \frac{1}{3}$

Solving Quadratic Equations (C)

Name: _____

Date: _____

Solve each equation for x.

1. $49x^2 - 4 = 0$

11. $36x^2 + 53x - 63 = 0$

2. $54x^2 + 93x + 40 = 0$

12. $7x^2 + 67x + 36 = 0$

3. $36x^2 - 25x + 4 = 0$

13. $12x^2 - 23x + 5 = 0$

4. $8x^2 + 38x + 35 = 0$

14. $28x^2 + 87x + 54 = 0$

5. $27x^2 - 21x + 4 = 0$

15. $54x^2 - 39x - 5 = 0$

6. $7x^2 - 45x - 28 = 0$

16. $63x^2 + 20x - 32 = 0$

7. $6x^2 + 5x - 1 = 0$

17. $2x^2 - 7x - 15 = 0$

8. $32x^2 + 60x + 7 = 0$

18. $4x^2 + 21x - 18 = 0$

9. $72x^2 + 85x + 25 = 0$

19. $x^2 + 6x + 8 = 0$

10. $27x^2 + 66x - 16 = 0$

20. $32x^2 - 12x - 9 = 0$

Solving Quadratic Equations (C) Answers

Name: _____

Date: _____

Solve each equation for x.

- $49x^2 - 4 = 0$
 $(7x - 2)(7x + 2) = 0$
 $x = \frac{2}{7}, -\frac{2}{7}$
- $54x^2 + 93x + 40 = 0$
 $(6x + 5)(9x + 8) = 0$
 $x = -\frac{5}{6}, -\frac{8}{9}$
- $36x^2 - 25x + 4 = 0$
 $(4x - 1)(9x - 4) = 0$
 $x = \frac{1}{4}, \frac{4}{9}$
- $8x^2 + 38x + 35 = 0$
 $(4x + 5)(2x + 7) = 0$
 $x = -1\frac{1}{4}, -3\frac{1}{2}$
- $27x^2 - 21x + 4 = 0$
 $(9x - 4)(3x - 1) = 0$
 $x = \frac{4}{9}, \frac{1}{3}$
- $7x^2 - 45x - 28 = 0$
 $(7x + 4)(x - 7) = 0$
 $x = -\frac{4}{7}, 7$
- $6x^2 + 5x - 1 = 0$
 $(x + 1)(6x - 1) = 0$
 $x = -1, \frac{1}{6}$
- $32x^2 + 60x + 7 = 0$
 $(8x + 1)(4x + 7) = 0$
 $x = -\frac{1}{8}, -1\frac{3}{4}$
- $72x^2 + 85x + 25 = 0$
 $(8x + 5)(9x + 5) = 0$
 $x = -\frac{5}{8}, -\frac{5}{9}$
- $27x^2 + 66x - 16 = 0$
 $(9x - 2)(3x + 8) = 0$
 $x = \frac{2}{9}, -2\frac{2}{3}$
- $36x^2 + 53x - 63 = 0$
 $(4x + 9)(9x - 7) = 0$
 $x = -2\frac{1}{4}, \frac{7}{9}$
- $7x^2 + 67x + 36 = 0$
 $(x + 9)(7x + 4) = 0$
 $x = -9, -\frac{4}{7}$
- $12x^2 - 23x + 5 = 0$
 $(4x - 1)(3x - 5) = 0$
 $x = \frac{1}{4}, 1\frac{2}{3}$
- $28x^2 + 87x + 54 = 0$
 $(4x + 9)(7x + 6) = 0$
 $x = -2\frac{1}{4}, -\frac{6}{7}$
- $54x^2 - 39x - 5 = 0$
 $(9x + 1)(6x - 5) = 0$
 $x = -\frac{1}{9}, \frac{5}{6}$
- $63x^2 + 20x - 32 = 0$
 $(7x - 4)(9x + 8) = 0$
 $x = \frac{4}{7}, -\frac{8}{9}$
- $2x^2 - 7x - 15 = 0$
 $(x - 5)(2x + 3) = 0$
 $x = 5, -1\frac{1}{2}$
- $4x^2 + 21x - 18 = 0$
 $(x + 6)(4x - 3) = 0$
 $x = -6, \frac{3}{4}$
- $x^2 + 6x + 8 = 0$
 $(x + 4)(x + 2) = 0$
 $x = -4, -2$
- $32x^2 - 12x - 9 = 0$
 $(4x - 3)(8x + 3) = 0$
 $x = \frac{3}{4}, -\frac{3}{8}$

Solving Quadratic Equations (D)

Name: _____

Date: _____

Solve each equation for x.

1. $63x^2 + 41x + 6 = 0$

11. $x^2 - 2x - 35 = 0$

2. $9x^2 - 44x + 32 = 0$

12. $20x^2 + 43x + 21 = 0$

3. $9x^2 + 26x - 3 = 0$

13. $45x^2 + 8x - 4 = 0$

4. $18x^2 + 45x + 7 = 0$

14. $63x^2 - 22x - 8 = 0$

5. $5x^2 - 37x - 72 = 0$

15. $20x^2 - 73x + 63 = 0$

6. $72x^2 + x - 56 = 0$

16. $72x^2 - 23x - 35 = 0$

7. $10x^2 - 19x + 6 = 0$

17. $36x^2 - 12x - 35 = 0$

8. $30x^2 - 17x + 2 = 0$

18. $30x^2 - 23x - 40 = 0$

9. $18x^2 - 45x + 25 = 0$

19. $81x^2 + 90x + 16 = 0$

10. $28x^2 - 27x - 81 = 0$

20. $64x^2 - 64x - 9 = 0$

Solving Quadratic Equations (D) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $63x^2 + 41x + 6 = 0$
 $(7x + 3)(9x + 2) = 0$
 $x = -\frac{3}{7}, -\frac{2}{9}$

2. $9x^2 - 44x + 32 = 0$
 $(x - 4)(9x - 8) = 0$
 $x = 4, \frac{8}{9}$

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

4. $18x^2 + 45x + 7 = 0$
 $(3x + 7)(6x + 1) = 0$
 $x = -2\frac{1}{3}, -\frac{1}{6}$

5. $5x^2 - 37x - 72 = 0$
 $(x - 9)(5x + 8) = 0$
 $x = 9, -1\frac{3}{5}$

6. $72x^2 + x - 56 = 0$
 $(9x + 8)(8x - 7) = 0$
 $x = -\frac{8}{9}, \frac{7}{8}$

7. $10x^2 - 19x + 6 = 0$
 $(2x - 3)(5x - 2) = 0$
 $x = 1\frac{1}{2}, \frac{2}{5}$

8. $30x^2 - 17x + 2 = 0$
 $(5x - 2)(6x - 1) = 0$
 $x = \frac{2}{5}, \frac{1}{6}$

9. $18x^2 - 45x + 25 = 0$
 $(3x - 5)(6x - 5) = 0$
 $x = 1\frac{2}{3}, \frac{5}{6}$

10. $28x^2 - 27x - 81 = 0$
 $(7x + 9)(4x - 9) = 0$
 $x = -1\frac{2}{7}, 2\frac{1}{4}$

11. $x^2 - 2x - 35 = 0$
 $(x - 7)(x + 5) = 0$
 $x = 7, -5$

12. $20x^2 + 43x + 21 = 0$
 $(4x + 3)(5x + 7) = 0$
 $x = -\frac{3}{4}, -1\frac{2}{5}$

13. $45x^2 + 8x - 4 = 0$
 $(5x + 2)(9x - 2) = 0$
 $x = -\frac{2}{5}, \frac{2}{9}$

14. $63x^2 - 22x - 8 = 0$
 $(9x + 2)(7x - 4) = 0$
 $x = -\frac{2}{9}, \frac{4}{7}$

15. $20x^2 - 73x + 63 = 0$
 $(5x - 7)(4x - 9) = 0$
 $x = 1\frac{2}{5}, 2\frac{1}{4}$

16. $72x^2 - 23x - 35 = 0$
 $(8x - 7)(9x + 5) = 0$
 $x = \frac{7}{8}, -\frac{5}{9}$

17. $36x^2 - 12x - 35 = 0$
 $(6x - 7)(6x + 5) = 0$
 $x = 1\frac{1}{6}, -\frac{5}{6}$

18. $30x^2 - 23x - 40 = 0$
 $(6x + 5)(5x - 8) = 0$
 $x = -\frac{5}{6}, 1\frac{3}{5}$

19. $81x^2 + 90x + 16 = 0$
 $(9x + 2)(9x + 8) = 0$
 $x = -\frac{2}{9}, -\frac{8}{9}$

20. $64x^2 - 64x - 9 = 0$
 $(8x + 1)(8x - 9) = 0$
 $x = -\frac{1}{8}, 1\frac{1}{8}$

Solving Quadratic Equations (E)

Name: _____

Date: _____

Solve each equation for x.

1. $72x^2 + 113x + 36 = 0$

11. $10x^2 + 21x - 10 = 0$

2. $63x^2 - 76x + 21 = 0$

12. $54x^2 + 3x - 2 = 0$

3. $12x^2 + 40x - 7 = 0$

13. $10x^2 + 43x + 28 = 0$

4. $8x^2 - 22x - 63 = 0$

14. $10x^2 + 13x - 30 = 0$

5. $42x^2 - 17x - 4 = 0$

15. $24x^2 - 7x - 6 = 0$

6. $45x^2 + 62x + 21 = 0$

16. $20x^2 + 29x - 36 = 0$

7. $5x^2 - 24x - 5 = 0$

17. $20x^2 + 3x - 9 = 0$

8. $16x^2 - 40x + 25 = 0$

18. $54x^2 + 33x + 4 = 0$

9. $42x^2 - 41x + 5 = 0$

19. $36x^2 - 19x - 7 = 0$

10. $15x^2 - 28x + 12 = 0$

20. $8x^2 - 18x - 35 = 0$

Solving Quadratic Equations (E) Answers

Name: _____

Date: _____

Solve each equation for x.

- $72x^2 + 113x + 36 = 0$
 $(8x + 9)(9x + 4) = 0$
 $x = -1\frac{1}{8}, -\frac{4}{9}$
- $63x^2 - 76x + 21 = 0$
 $(9x - 7)(7x - 3) = 0$
 $x = \frac{7}{9}, \frac{3}{7}$
- $12x^2 + 40x - 7 = 0$
 $(2x + 7)(6x - 1) = 0$
 $x = -3\frac{1}{2}, \frac{1}{6}$
- $8x^2 - 22x - 63 = 0$
 $(4x + 7)(2x - 9) = 0$
 $x = -1\frac{3}{4}, 4\frac{1}{2}$
- $42x^2 - 17x - 4 = 0$
 $(7x - 4)(6x + 1) = 0$
 $x = \frac{4}{7}, -\frac{1}{6}$
- $45x^2 + 62x + 21 = 0$
 $(5x + 3)(9x + 7) = 0$
 $x = -\frac{3}{5}, -\frac{7}{9}$
- $5x^2 - 24x - 5 = 0$
 $(5x + 1)(x - 5) = 0$
 $x = -\frac{1}{5}, 5$
- $16x^2 - 40x + 25 = 0$
 $(4x - 5)(4x - 5) = (4x - 5)^2 = 0$
 $x = 1\frac{1}{4}$
- $42x^2 - 41x + 5 = 0$
 $(7x - 1)(6x - 5) = 0$
 $x = \frac{1}{7}, \frac{5}{6}$
- $15x^2 - 28x + 12 = 0$
 $(5x - 6)(3x - 2) = 0$
 $x = 1\frac{1}{5}, \frac{2}{3}$
- $10x^2 + 21x - 10 = 0$
 $(5x - 2)(2x + 5) = 0$
 $x = \frac{2}{5}, -2\frac{1}{2}$
- $54x^2 + 3x - 2 = 0$
 $(9x + 2)(6x - 1) = 0$
 $x = -\frac{2}{9}, \frac{1}{6}$
- $10x^2 + 43x + 28 = 0$
 $(2x + 7)(5x + 4) = 0$
 $x = -3\frac{1}{2}, -\frac{4}{5}$
- $10x^2 + 13x - 30 = 0$
 $(2x + 5)(5x - 6) = 0$
 $x = -2\frac{1}{2}, 1\frac{1}{5}$
- $24x^2 - 7x - 6 = 0$
 $(8x + 3)(3x - 2) = 0$
 $x = -\frac{3}{8}, \frac{2}{3}$
- $20x^2 + 29x - 36 = 0$
 $(4x + 9)(5x - 4) = 0$
 $x = -2\frac{1}{4}, \frac{4}{5}$
- $20x^2 + 3x - 9 = 0$
 $(4x + 3)(5x - 3) = 0$
 $x = -\frac{3}{4}, \frac{3}{5}$
- $54x^2 + 33x + 4 = 0$
 $(6x + 1)(9x + 4) = 0$
 $x = -\frac{1}{6}, -\frac{4}{9}$
- $36x^2 - 19x - 7 = 0$
 $(9x - 7)(4x + 1) = 0$
 $x = \frac{7}{9}, -\frac{1}{4}$
- $8x^2 - 18x - 35 = 0$
 $(4x + 5)(2x - 7) = 0$
 $x = -1\frac{1}{4}, 3\frac{1}{2}$

Solving Quadratic Equations (F)

Name: _____

Date: _____

Solve each equation for x.

1. $15x^2 + 53x + 42 = 0$

11. $18x^2 + 3x - 1 = 0$

2. $16x^2 + 22x - 45 = 0$

12. $14x^2 - 31x - 10 = 0$

3. $20x^2 - 9x + 1 = 0$

13. $4x^2 - 16x - 9 = 0$

4. $24x^2 + 29x - 4 = 0$

14. $12x^2 - 19x + 4 = 0$

5. $7x^2 - 33x - 10 = 0$

15. $20x^2 + 9x + 1 = 0$

6. $21x^2 + 65x + 24 = 0$

16. $36x^2 - 5x - 24 = 0$

7. $4x^2 - 29x - 24 = 0$

17. $x^2 + 11x + 24 = 0$

8. $72x^2 + 79x + 14 = 0$

18. $16x^2 + 78x + 27 = 0$

9. $72x^2 + x - 56 = 0$

19. $16x^2 + 30x + 9 = 0$

10. $27x^2 + 60x + 25 = 0$

20. $8x^2 + 79x + 63 = 0$

Solving Quadratic Equations (F) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $15x^2 + 53x + 42 = 0$
 $(5x + 6)(3x + 7) = 0$
 $x = -1\frac{1}{5}, -2\frac{1}{3}$

2. $16x^2 + 22x - 45 = 0$
 $(2x + 5)(8x - 9) = 0$
 $x = -2\frac{1}{2}, 1\frac{1}{8}$

3. $20x^2 - 9x + 1 = 0$
 $(4x - 1)(5x - 1) = 0$
 $x = \frac{1}{4}, \frac{1}{5}$

4. $24x^2 + 29x - 4 = 0$
 $(3x + 4)(8x - 1) = 0$
 $x = -1\frac{1}{3}, \frac{1}{8}$

5. $7x^2 - 33x - 10 = 0$
 $(x - 5)(7x + 2) = 0$
 $x = 5, -\frac{2}{7}$

6. $21x^2 + 65x + 24 = 0$
 $(3x + 8)(7x + 3) = 0$
 $x = -2\frac{2}{3}, -\frac{3}{7}$

7. $4x^2 - 29x - 24 = 0$
 $(4x + 3)(x - 8) = 0$
 $x = -\frac{3}{4}, 8$

8. $72x^2 + 79x + 14 = 0$
 $(9x + 2)(8x + 7) = 0$
 $x = -\frac{2}{9}, -\frac{7}{8}$

9. $72x^2 + x - 56 = 0$
 $(9x + 8)(8x - 7) = 0$
 $x = -\frac{8}{9}, \frac{7}{8}$

10. $27x^2 + 60x + 25 = 0$
 $(3x + 5)(9x + 5) = 0$
 $x = -1\frac{2}{3}, -\frac{5}{9}$

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

12. $14x^2 - 31x - 10 = 0$
 $(7x + 2)(2x - 5) = 0$
 $x = -\frac{2}{7}, 2\frac{1}{2}$

13. $4x^2 - 16x - 9 = 0$
 $(2x + 1)(2x - 9) = 0$
 $x = -\frac{1}{2}, 4\frac{1}{2}$

14. $12x^2 - 19x + 4 = 0$
 $(3x - 4)(4x - 1) = 0$
 $x = 1\frac{1}{3}, \frac{1}{4}$

15. $20x^2 + 9x + 1 = 0$
 $(5x + 1)(4x + 1) = 0$
 $x = -\frac{1}{5}, -\frac{1}{4}$

16. $36x^2 - 5x - 24 = 0$
 $(4x + 3)(9x - 8) = 0$
 $x = -\frac{3}{4}, \frac{8}{9}$

17. $x^2 + 11x + 24 = 0$
 $(x + 3)(x + 8) = 0$
 $x = -3, -8$

18. $16x^2 + 78x + 27 = 0$
 $(8x + 3)(2x + 9) = 0$
 $x = -\frac{3}{8}, -4\frac{1}{2}$

19. $16x^2 + 30x + 9 = 0$
 $(8x + 3)(2x + 3) = 0$
 $x = -\frac{3}{8}, -1\frac{1}{2}$

20. $8x^2 + 79x + 63 = 0$
 $(8x + 7)(x + 9) = 0$
 $x = -\frac{7}{8}, -9$

Solving Quadratic Equations (G)

Name: _____

Date: _____

Solve each equation for x.

1. $2x^2 - 17x + 35 = 0$

11. $35x^2 - 39x + 10 = 0$

2. $27x^2 - 48x - 35 = 0$

12. $45x^2 + 58x + 16 = 0$

3. $42x^2 - 41x + 5 = 0$

13. $6x^2 + 17x + 7 = 0$

4. $9x^2 - 74x + 16 = 0$

14. $49x^2 - 98x + 45 = 0$

5. $32x^2 - 76x + 9 = 0$

15. $45x^2 + 44x - 12 = 0$

6. $49x^2 + 49x + 6 = 0$

16. $9x^2 - 10x + 1 = 0$

7. $6x^2 + 49x + 8 = 0$

17. $35x^2 - 48x - 27 = 0$

8. $20x^2 + 51x + 28 = 0$

18. $24x^2 - 83x + 63 = 0$

9. $7x^2 + 15x - 18 = 0$

19. $18x^2 + 7x - 1 = 0$

10. $6x^2 - 29x - 42 = 0$

20. $12x^2 + 17x - 40 = 0$

Solving Quadratic Equations (G) Answers

Name: _____

Date: _____

Solve each equation for x.

- $2x^2 - 17x + 35 = 0$
 $(x - 5)(2x - 7) = 0$
 $x = 5, 3\frac{1}{2}$
- $27x^2 - 48x - 35 = 0$
 $(3x - 7)(9x + 5) = 0$
 $x = 2\frac{1}{3}, -\frac{5}{9}$
- $42x^2 - 41x + 5 = 0$
 $(6x - 5)(7x - 1) = 0$
 $x = \frac{5}{6}, \frac{1}{7}$
- $9x^2 - 74x + 16 = 0$
 $(9x - 2)(x - 8) = 0$
 $x = \frac{2}{9}, 8$
- $32x^2 - 76x + 9 = 0$
 $(8x - 1)(4x - 9) = 0$
 $x = \frac{1}{8}, 2\frac{1}{4}$
- $49x^2 + 49x + 6 = 0$
 $(7x + 1)(7x + 6) = 0$
 $x = -\frac{1}{7}, -\frac{6}{7}$
- $6x^2 + 49x + 8 = 0$
 $(x + 8)(6x + 1) = 0$
 $x = -8, -\frac{1}{6}$
- $20x^2 + 51x + 28 = 0$
 $(5x + 4)(4x + 7) = 0$
 $x = -\frac{4}{5}, -1\frac{3}{4}$
- $7x^2 + 15x - 18 = 0$
 $(7x - 6)(x + 3) = 0$
 $x = \frac{6}{7}, -3$
- $6x^2 - 29x - 42 = 0$
 $(x - 6)(6x + 7) = 0$
 $x = 6, -1\frac{1}{6}$
- $35x^2 - 39x + 10 = 0$
 $(5x - 2)(7x - 5) = 0$
 $x = \frac{2}{5}, \frac{5}{7}$
- $45x^2 + 58x + 16 = 0$
 $(5x + 2)(9x + 8) = 0$
 $x = -\frac{2}{5}, -\frac{8}{9}$
- $6x^2 + 17x + 7 = 0$
 $(2x + 1)(3x + 7) = 0$
 $x = -\frac{1}{2}, -2\frac{1}{3}$
- $49x^2 - 98x + 45 = 0$
 $(7x - 9)(7x - 5) = 0$
 $x = 1\frac{2}{7}, \frac{5}{7}$
- $45x^2 + 44x - 12 = 0$
 $(5x + 6)(9x - 2) = 0$
 $x = -1\frac{1}{5}, \frac{2}{9}$
- $9x^2 - 10x + 1 = 0$
 $(x - 1)(9x - 1) = 0$
 $x = 1, \frac{1}{9}$
- $35x^2 - 48x - 27 = 0$
 $(7x + 3)(5x - 9) = 0$
 $x = -\frac{3}{7}, 1\frac{4}{5}$
- $24x^2 - 83x + 63 = 0$
 $(3x - 7)(8x - 9) = 0$
 $x = 2\frac{1}{3}, 1\frac{1}{8}$
- $18x^2 + 7x - 1 = 0$
 $(9x - 1)(2x + 1) = 0$
 $x = \frac{1}{9}, -\frac{1}{2}$
- $12x^2 + 17x - 40 = 0$
 $(4x - 5)(3x + 8) = 0$
 $x = 1\frac{1}{4}, -2\frac{2}{3}$

Solving Quadratic Equations (H)

Name: _____

Date: _____

Solve each equation for x.

1. $5x^2 - 43x + 24 = 0$

11. $18x^2 - 53x + 20 = 0$

2. $24x^2 - 47x - 21 = 0$

12. $27x^2 - 60x + 25 = 0$

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

13. $5x^2 + 24x - 36 = 0$

4. $45x^2 + 29x - 30 = 0$

14. $48x^2 - 34x - 5 = 0$

5. $32x^2 - 92x + 63 = 0$

15. $42x^2 + 25x + 3 = 0$

6. $27x^2 - 12x - 4 = 0$

16. $42x^2 + 103x + 63 = 0$

7. $49x^2 + 63x + 8 = 0$

17. $40x^2 + 69x + 8 = 0$

8. $8x^2 - 17x + 2 = 0$

18. $63x^2 - 64x + 16 = 0$

9. $4x^2 - 20x + 9 = 0$

19. $24x^2 + 2x - 35 = 0$

10. $4x^2 - 19x - 5 = 0$

20. $72x^2 - 23x - 4 = 0$

Solving Quadratic Equations (H) Answers

Name: _____

Date: _____

Solve each equation for x.

- $5x^2 - 43x + 24 = 0$
 $(5x - 3)(x - 8) = 0$
 $x = \frac{3}{5}, 8$
- $24x^2 - 47x - 21 = 0$
 $(3x - 7)(8x + 3) = 0$
 $x = 2\frac{1}{3}, -\frac{3}{8}$
- $18x^2 + x - 5 = 0$
 $(9x + 5)(2x - 1) = 0$
 $x = -\frac{5}{9}, \frac{1}{2}$
- $45x^2 + 29x - 30 = 0$
 $(9x - 5)(5x + 6) = 0$
 $x = \frac{5}{9}, -1\frac{1}{5}$
- $32x^2 - 92x + 63 = 0$
 $(4x - 7)(8x - 9) = 0$
 $x = 1\frac{3}{4}, 1\frac{1}{8}$
- $27x^2 - 12x - 4 = 0$
 $(9x + 2)(3x - 2) = 0$
 $x = -\frac{2}{9}, \frac{2}{3}$
- $49x^2 + 63x + 8 = 0$
 $(7x + 1)(7x + 8) = 0$
 $x = -\frac{1}{7}, -1\frac{1}{7}$
- $8x^2 - 17x + 2 = 0$
 $(8x - 1)(x - 2) = 0$
 $x = \frac{1}{8}, 2$
- $4x^2 - 20x + 9 = 0$
 $(2x - 9)(2x - 1) = 0$
 $x = 4\frac{1}{2}, \frac{1}{2}$
- $4x^2 - 19x - 5 = 0$
 $(4x + 1)(x - 5) = 0$
 $x = -\frac{1}{4}, 5$
- $18x^2 - 53x + 20 = 0$
 $(2x - 5)(9x - 4) = 0$
 $x = 2\frac{1}{2}, \frac{4}{9}$
- $27x^2 - 60x + 25 = 0$
 $(3x - 5)(9x - 5) = 0$
 $x = 1\frac{2}{3}, \frac{5}{9}$
- $5x^2 + 24x - 36 = 0$
 $(5x - 6)(x + 6) = 0$
 $x = 1\frac{1}{5}, -6$
- $48x^2 - 34x - 5 = 0$
 $(8x + 1)(6x - 5) = 0$
 $x = -\frac{1}{8}, \frac{5}{6}$
- $42x^2 + 25x + 3 = 0$
 $(7x + 3)(6x + 1) = 0$
 $x = -\frac{3}{7}, -\frac{1}{6}$
- $42x^2 + 103x + 63 = 0$
 $(6x + 7)(7x + 9) = 0$
 $x = -1\frac{1}{6}, -1\frac{2}{7}$
- $40x^2 + 69x + 8 = 0$
 $(8x + 1)(5x + 8) = 0$
 $x = -\frac{1}{8}, -1\frac{3}{5}$
- $63x^2 - 64x + 16 = 0$
 $(7x - 4)(9x - 4) = 0$
 $x = \frac{4}{7}, \frac{4}{9}$
- $24x^2 + 2x - 35 = 0$
 $(4x + 5)(6x - 7) = 0$
 $x = -1\frac{1}{4}, 1\frac{1}{6}$
- $72x^2 - 23x - 4 = 0$
 $(8x + 1)(9x - 4) = 0$
 $x = -\frac{1}{8}, \frac{4}{9}$

Solving Quadratic Equations (I)

Name: _____

Date: _____

Solve each equation for x.

1. $30x^2 - 13x - 3 = 0$

11. $16x^2 + 74x + 9 = 0$

2. $42x^2 - 41x - 8 = 0$

12. $35x^2 - 22x - 24 = 0$

3. $9x^2 + 19x - 24 = 0$

13. $9x^2 - 31x - 20 = 0$

4. $27x^2 + 60x - 7 = 0$

14. $5x^2 + 19x - 4 = 0$

5. $48x^2 + 98x + 49 = 0$

15. $56x^2 + 59x + 15 = 0$

6. $48x^2 - 86x + 35 = 0$

16. $6x^2 - 25x + 24 = 0$

7. $64x^2 - 64x - 9 = 0$

17. $24x^2 - 55x - 24 = 0$

8. $15x^2 - 14x - 49 = 0$

18. $40x^2 + 11x - 2 = 0$

9. $18x^2 - 45x - 8 = 0$

19. $18x^2 - 9x - 35 = 0$

10. $16x^2 + 22x - 3 = 0$

20. $4x^2 + 27x + 35 = 0$

Solving Quadratic Equations (I) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $30x^2 - 13x - 3 = 0$
 $(6x + 1)(5x - 3) = 0$
 $x = -\frac{1}{6}, \frac{3}{5}$

2. $42x^2 - 41x - 8 = 0$
 $(7x - 8)(6x + 1) = 0$
 $x = 1\frac{1}{7}, -\frac{1}{6}$

3. $9x^2 + 19x - 24 = 0$
 $(9x - 8)(x + 3) = 0$
 $x = \frac{8}{9}, -3$

4. $27x^2 + 60x - 7 = 0$
 $(3x + 7)(9x - 1) = 0$
 $x = -2\frac{1}{3}, \frac{1}{9}$

5. $48x^2 + 98x + 49 = 0$
 $(6x + 7)(8x + 7) = 0$
 $x = -1\frac{1}{6}, -\frac{7}{8}$

6. $48x^2 - 86x + 35 = 0$
 $(6x - 7)(8x - 5) = 0$
 $x = 1\frac{1}{6}, \frac{5}{8}$

7. $64x^2 - 64x - 9 = 0$
 $(8x - 9)(8x + 1) = 0$
 $x = 1\frac{1}{8}, -\frac{1}{8}$

8. $15x^2 - 14x - 49 = 0$
 $(5x + 7)(3x - 7) = 0$
 $x = -1\frac{2}{5}, 2\frac{1}{3}$

9. $18x^2 - 45x - 8 = 0$
 $(3x - 8)(6x + 1) = 0$
 $x = 2\frac{2}{3}, -\frac{1}{6}$

10. $16x^2 + 22x - 3 = 0$
 $(8x - 1)(2x + 3) = 0$
 $x = \frac{1}{8}, -1\frac{1}{2}$

11. $16x^2 + 74x + 9 = 0$
 $(2x + 9)(8x + 1) = 0$
 $x = -4\frac{1}{2}, -\frac{1}{8}$

12. $35x^2 - 22x - 24 = 0$
 $(5x - 6)(7x + 4) = 0$
 $x = 1\frac{1}{5}, -\frac{4}{7}$

13. $9x^2 - 31x - 20 = 0$
 $(x - 4)(9x + 5) = 0$
 $x = 4, -\frac{5}{9}$

14. $5x^2 + 19x - 4 = 0$
 $(x + 4)(5x - 1) = 0$
 $x = -4, \frac{1}{5}$

15. $56x^2 + 59x + 15 = 0$
 $(7x + 3)(8x + 5) = 0$
 $x = -\frac{3}{7}, -\frac{5}{8}$

16. $6x^2 - 25x + 24 = 0$
 $(2x - 3)(3x - 8) = 0$
 $x = 1\frac{1}{2}, 2\frac{2}{3}$

17. $24x^2 - 55x - 24 = 0$
 $(3x - 8)(8x + 3) = 0$
 $x = 2\frac{2}{3}, -\frac{3}{8}$

18. $40x^2 + 11x - 2 = 0$
 $(8x - 1)(5x + 2) = 0$
 $x = \frac{1}{8}, -\frac{2}{5}$

19. $18x^2 - 9x - 35 = 0$
 $(6x + 7)(3x - 5) = 0$
 $x = -1\frac{1}{6}, 1\frac{2}{3}$

20. $4x^2 + 27x + 35 = 0$
 $(4x + 7)(x + 5) = 0$
 $x = -1\frac{3}{4}, -5$

Solving Quadratic Equations (J)

Name: _____

Date: _____

Solve each equation for x.

1. $30x^2 - 83x + 56 = 0$

11. $42x^2 + 71x + 30 = 0$

2. $56x^2 + 27x - 5 = 0$

12. $24x^2 - 13x - 7 = 0$

3. $12x^2 + 16x - 35 = 0$

13. $8x^2 - 59x + 21 = 0$

4. $30x^2 + 31x + 5 = 0$

14. $10x^2 - 21x - 10 = 0$

5. $35x^2 - 73x + 18 = 0$

15. $32x^2 + 76x + 35 = 0$

6. $81x^2 - 54x - 7 = 0$

16. $35x^2 - 81x + 40 = 0$

7. $18x^2 - 39x - 7 = 0$

17. $63x^2 + 23x + 2 = 0$

8. $24x^2 + 67x + 45 = 0$

18. $20x^2 + x - 12 = 0$

9. $45x^2 - 121x + 72 = 0$

19. $24x^2 + 58x + 9 = 0$

10. $8x^2 + 81x + 81 = 0$

20. $2x^2 + x - 6 = 0$

Solving Quadratic Equations (J) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $30x^2 - 83x + 56 = 0$
 $(6x - 7)(5x - 8) = 0$
 $x = 1\frac{1}{6}, 1\frac{3}{5}$

2. $56x^2 + 27x - 5 = 0$
 $(8x + 5)(7x - 1) = 0$
 $x = -\frac{5}{8}, \frac{1}{7}$

3. $12x^2 + 16x - 35 = 0$
 $(2x + 5)(6x - 7) = 0$
 $x = -2\frac{1}{2}, 1\frac{1}{6}$

4. $30x^2 + 31x + 5 = 0$
 $(6x + 5)(5x + 1) = 0$
 $x = -\frac{5}{6}, -\frac{1}{5}$

5. $35x^2 - 73x + 18 = 0$
 $(7x - 2)(5x - 9) = 0$
 $x = \frac{2}{7}, 1\frac{4}{5}$

6. $81x^2 - 54x - 7 = 0$
 $(9x + 1)(9x - 7) = 0$
 $x = -\frac{1}{9}, \frac{7}{9}$

7. $18x^2 - 39x - 7 = 0$
 $(3x - 7)(6x + 1) = 0$
 $x = 2\frac{1}{3}, -\frac{1}{6}$

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

9. $45x^2 - 121x + 72 = 0$
 $(9x - 8)(5x - 9) = 0$
 $x = \frac{8}{9}, 1\frac{4}{5}$

10. $8x^2 + 81x + 81 = 0$
 $(x + 9)(8x + 9) = 0$
 $x = -9, -1\frac{1}{8}$

11. $42x^2 + 71x + 30 = 0$
 $(7x + 6)(6x + 5) = 0$
 $x = -\frac{6}{7}, -\frac{5}{6}$

12. $24x^2 - 13x - 7 = 0$
 $(8x - 7)(3x + 1) = 0$
 $x = \frac{7}{8}, -\frac{1}{3}$

13. $8x^2 - 59x + 21 = 0$
 $(x - 7)(8x - 3) = 0$
 $x = 7, \frac{3}{8}$

14. $10x^2 - 21x - 10 = 0$
 $(5x + 2)(2x - 5) = 0$
 $x = -\frac{2}{5}, 2\frac{1}{2}$

15. $32x^2 + 76x + 35 = 0$
 $(4x + 7)(8x + 5) = 0$
 $x = -1\frac{3}{4}, -\frac{5}{8}$

16. $35x^2 - 81x + 40 = 0$
 $(5x - 8)(7x - 5) = 0$
 $x = 1\frac{3}{5}, \frac{5}{7}$

17. $63x^2 + 23x + 2 = 0$
 $(9x + 2)(7x + 1) = 0$
 $x = -\frac{2}{9}, -\frac{1}{7}$

18. $20x^2 + x - 12 = 0$
 $(4x - 3)(5x + 4) = 0$
 $x = \frac{3}{4}, -\frac{4}{5}$

19. $24x^2 + 58x + 9 = 0$
 $(4x + 9)(6x + 1) = 0$
 $x = -2\frac{1}{4}, -\frac{1}{6}$

20. $2x^2 + x - 6 = 0$
 $(x + 2)(2x - 3) = 0$
 $x = -2, 1\frac{1}{2}$