

Solving Quadratic Equations (A)

Name: _____

Date: _____

Solve each equation for x.

1. $-4x^2 + 30x + 54 = 0$

11. $-12x^2 + 12x + 45 = 0$

2. $-9x^2 + 15x + 84 = 0$

12. $8x^2 + 10x - 42 = 0$

3. $12x^2 - 52x - 40 = 0$

13. $-6x^2 + 51x - 108 = 0$

4. $3x^2 - 39x + 120 = 0$

14. $-2x^2 - 2x + 84 = 0$

5. $12x^2 - 36x + 15 = 0$

15. $9x^2 + 57x - 120 = 0$

6. $-16x^2 - 16x + 12 = 0$

16. $-12x^2 - 80x - 48 = 0$

7. $-20x^2 - 65x - 15 = 0$

17. $6x^2 - 21x + 9 = 0$

8. $10x^2 - 5x - 75 = 0$

18. $-15x^2 - 140x - 45 = 0$

9. $8x^2 + 76x + 168 = 0$

19. $3x^2 - 108 = 0$

10. $-10x^2 - 35x + 20 = 0$

20. $8x^2 - 24x + 10 = 0$

Solving Quadratic Equations (A) Answers

Name: _____

Date: _____

Solve each equation for x.

- $-4x^2 + 30x + 54 = 0$
 $-2(2x + 3)(x - 9) = 0$
 $x = -1\frac{1}{2}, 9$
- $-9x^2 + 15x + 84 = 0$
 $-3(x - 4)(3x + 7) = 0$
 $x = 4, -2\frac{1}{3}$
- $12x^2 - 52x - 40 = 0$
 $4(3x + 2)(x - 5) = 0$
 $x = -\frac{2}{3}, 5$
- $3x^2 - 39x + 120 = 0$
 $3(x - 5)(x - 8) = 0$
 $x = 5, 8$
- $12x^2 - 36x + 15 = 0$
 $3(2x - 1)(2x - 5) = 0$
 $x = \frac{1}{2}, 2\frac{1}{2}$
- $-16x^2 - 16x + 12 = 0$
 $-4(2x - 1)(2x + 3) = 0$
 $x = \frac{1}{2}, -1\frac{1}{2}$
- $-20x^2 - 65x - 15 = 0$
 $-5(x + 3)(4x + 1) = 0$
 $x = -3, -\frac{1}{4}$
- $10x^2 - 5x - 75 = 0$
 $5(x - 3)(2x + 5) = 0$
 $x = 3, -2\frac{1}{2}$
- $8x^2 + 76x + 168 = 0$
 $4(2x + 7)(x + 6) = 0$
 $x = -3\frac{1}{2}, -6$
- $-10x^2 - 35x + 20 = 0$
 $-5(x + 4)(2x - 1) = 0$
 $x = -4, \frac{1}{2}$
- $-12x^2 + 12x + 45 = 0$
 $-3(2x - 5)(2x + 3) = 0$
 $x = 2\frac{1}{2}, -1\frac{1}{2}$
- $8x^2 + 10x - 42 = 0$
 $2(4x - 7)(x + 3) = 0$
 $x = 1\frac{3}{4}, -3$
- $-6x^2 + 51x - 108 = 0$
 $-3(2x - 9)(x - 4) = 0$
 $x = 4\frac{1}{2}, 4$
- $-2x^2 - 2x + 84 = 0$
 $-2(x - 6)(x + 7) = 0$
 $x = 6, -7$
- $9x^2 + 57x - 120 = 0$
 $3(x + 8)(3x - 5) = 0$
 $x = -8, 1\frac{2}{3}$
- $-12x^2 - 80x - 48 = 0$
 $-4(x + 6)(3x + 2) = 0$
 $x = -6, -\frac{2}{3}$
- $6x^2 - 21x + 9 = 0$
 $3(x - 3)(2x - 1) = 0$
 $x = 3, \frac{1}{2}$
- $-15x^2 - 140x - 45 = 0$
 $-5(3x + 1)(x + 9) = 0$
 $x = -\frac{1}{3}, -9$
- $3x^2 - 108 = 0$
 $3(x - 6)(x + 6) = 0$
 $x = 6, -6$
- $8x^2 - 24x + 10 = 0$
 $2(2x - 1)(2x - 5) = 0$
 $x = \frac{1}{2}, 2\frac{1}{2}$

Solving Quadratic Equations (B)

Name: _____

Date: _____

Solve each equation for x.

1. $-8x^2 - 58x + 48 = 0$

11. $12x^2 - 32x - 64 = 0$

2. $9x^2 - 42x + 45 = 0$

12. $-9x^2 - 6x + 63 = 0$

3. $6x^2 - 3x - 30 = 0$

13. $-2x^2 + 24x - 64 = 0$

4. $-10x^2 + 65x + 35 = 0$

14. $-16x^2 + 68x - 16 = 0$

5. $-8x^2 - 74x - 18 = 0$

15. $16x^2 - 108x + 72 = 0$

6. $6x^2 - 63x + 147 = 0$

16. $20x^2 - 20x - 315 = 0$

7. $-16x^2 + 92x + 24 = 0$

17. $10x^2 - 75x + 125 = 0$

8. $8x^2 + 92x + 224 = 0$

18. $-4x^2 + 4x + 48 = 0$

9. $16x^2 - 68x + 16 = 0$

19. $-4x^2 - 4x + 224 = 0$

10. $12x^2 + 76x - 160 = 0$

20. $-12x^2 - 12x + 45 = 0$

Solving Quadratic Equations (B) Answers

Name: _____

Date: _____

Solve each equation for x.

- $-8x^2 - 58x + 48 = 0$
 $-2(4x - 3)(x + 8) = 0$
 $x = \frac{3}{4}, -8$
- $9x^2 - 42x + 45 = 0$
 $3(3x - 5)(x - 3) = 0$
 $x = 1\frac{2}{3}, 3$
- $6x^2 - 3x - 30 = 0$
 $3(2x - 5)(x + 2) = 0$
 $x = 2\frac{1}{2}, -2$
- $-10x^2 + 65x + 35 = 0$
 $-5(x - 7)(2x + 1) = 0$
 $x = 7, -\frac{1}{2}$
- $-8x^2 - 74x - 18 = 0$
 $-2(x + 9)(4x + 1) = 0$
 $x = -9, -\frac{1}{4}$
- $6x^2 - 63x + 147 = 0$
 $3(x - 7)(2x - 7) = 0$
 $x = 7, 3\frac{1}{2}$
- $-16x^2 + 92x + 24 = 0$
 $-4(4x + 1)(x - 6) = 0$
 $x = -\frac{1}{4}, 6$
- $8x^2 + 92x + 224 = 0$
 $4(2x + 7)(x + 8) = 0$
 $x = -3\frac{1}{2}, -8$
- $16x^2 - 68x + 16 = 0$
 $4(4x - 1)(x - 4) = 0$
 $x = \frac{1}{4}, 4$
- $12x^2 + 76x - 160 = 0$
 $4(3x - 5)(x + 8) = 0$
 $x = 1\frac{2}{3}, -8$
- $12x^2 - 32x - 64 = 0$
 $4(3x + 4)(x - 4) = 0$
 $x = -1\frac{1}{3}, 4$
- $-9x^2 - 6x + 63 = 0$
 $-3(x + 3)(3x - 7) = 0$
 $x = -3, 2\frac{1}{3}$
- $-2x^2 + 24x - 64 = 0$
 $-2(x - 4)(x - 8) = 0$
 $x = 4, 8$
- $-16x^2 + 68x - 16 = 0$
 $-4(x - 4)(4x - 1) = 0$
 $x = 4, \frac{1}{4}$
- $16x^2 - 108x + 72 = 0$
 $4(x - 6)(4x - 3) = 0$
 $x = 6, \frac{3}{4}$
- $20x^2 - 20x - 315 = 0$
 $5(2x - 9)(2x + 7) = 0$
 $x = 4\frac{1}{2}, -3\frac{1}{2}$
- $10x^2 - 75x + 125 = 0$
 $5(x - 5)(2x - 5) = 0$
 $x = 5, 2\frac{1}{2}$
- $-4x^2 + 4x + 48 = 0$
 $-4(x + 3)(x - 4) = 0$
 $x = -3, 4$
- $-4x^2 - 4x + 224 = 0$
 $-4(x + 8)(x - 7) = 0$
 $x = -8, 7$
- $-12x^2 - 12x + 45 = 0$
 $-3(2x - 3)(2x + 5) = 0$
 $x = 1\frac{1}{2}, -2\frac{1}{2}$

Solving Quadratic Equations (C)

Name: _____

Date: _____

Solve each equation for x.

1. $6x^2 - 46x - 16 = 0$

11. $-10x^2 - 105x - 245 = 0$

2. $-8x^2 - 20x + 168 = 0$

12. $-16x^2 + 76x + 20 = 0$

3. $6x^2 + 27x + 30 = 0$

13. $-8x^2 - 8x + 6 = 0$

4. $-20x^2 - 5x + 25 = 0$

14. $-6x^2 - 45x + 81 = 0$

5. $-10x^2 + 55x - 45 = 0$

15. $-10x^2 - 75x - 135 = 0$

6. $-3x^2 + 9x + 162 = 0$

16. $-20x^2 - 65x + 60 = 0$

7. $20x^2 - 125x - 105 = 0$

17. $-15x^2 + 80x + 60 = 0$

8. $-12x^2 + 24x + 63 = 0$

18. $10x^2 - 5x - 75 = 0$

9. $-12x^2 + 69x + 105 = 0$

19. $2x^2 - 24x + 70 = 0$

10. $-4x^2 - 30x - 50 = 0$

20. $2x^2 + 6x - 108 = 0$

Solving Quadratic Equations (C) Answers

Name: _____

Date: _____

Solve each equation for x.

- $6x^2 - 46x - 16 = 0$
 $2(3x + 1)(x - 8) = 0$
 $x = -\frac{1}{3}, 8$
- $-8x^2 - 20x + 168 = 0$
 $-4(2x - 7)(x + 6) = 0$
 $x = 3\frac{1}{2}, -6$
- $6x^2 + 27x + 30 = 0$
 $3(2x + 5)(x + 2) = 0$
 $x = -2\frac{1}{2}, -2$
- $-20x^2 - 5x + 25 = 0$
 $-5(x - 1)(4x + 5) = 0$
 $x = 1, -1\frac{1}{4}$
- $-10x^2 + 55x - 45 = 0$
 $-5(x - 1)(2x - 9) = 0$
 $x = 1, 4\frac{1}{2}$
- $-3x^2 + 9x + 162 = 0$
 $-3(x - 9)(x + 6) = 0$
 $x = 9, -6$
- $20x^2 - 125x - 105 = 0$
 $5(4x + 3)(x - 7) = 0$
 $x = -\frac{3}{4}, 7$
- $-12x^2 + 24x + 63 = 0$
 $-3(2x + 3)(2x - 7) = 0$
 $x = -1\frac{1}{2}, 3\frac{1}{2}$
- $-12x^2 + 69x + 105 = 0$
 $-3(x - 7)(4x + 5) = 0$
 $x = 7, -1\frac{1}{4}$
- $-4x^2 - 30x - 50 = 0$
 $-2(2x + 5)(x + 5) = 0$
 $x = -2\frac{1}{2}, -5$
- $-10x^2 - 105x - 245 = 0$
 $-5(x + 7)(2x + 7) = 0$
 $x = -7, -3\frac{1}{2}$
- $-16x^2 + 76x + 20 = 0$
 $-4(x - 5)(4x + 1) = 0$
 $x = 5, -\frac{1}{4}$
- $-8x^2 - 8x + 6 = 0$
 $-2(2x + 3)(2x - 1) = 0$
 $x = -1\frac{1}{2}, \frac{1}{2}$
- $-6x^2 - 45x + 81 = 0$
 $-3(x + 9)(2x - 3) = 0$
 $x = -9, 1\frac{1}{2}$
- $-10x^2 - 75x - 135 = 0$
 $-5(2x + 9)(x + 3) = 0$
 $x = -4\frac{1}{2}, -3$
- $-20x^2 - 65x + 60 = 0$
 $-5(4x - 3)(x + 4) = 0$
 $x = \frac{3}{4}, -4$
- $-15x^2 + 80x + 60 = 0$
 $-5(3x + 2)(x - 6) = 0$
 $x = -\frac{2}{3}, 6$
- $10x^2 - 5x - 75 = 0$
 $5(2x + 5)(x - 3) = 0$
 $x = -2\frac{1}{2}, 3$
- $2x^2 - 24x + 70 = 0$
 $2(x - 5)(x - 7) = 0$
 $x = 5, 7$
- $2x^2 + 6x - 108 = 0$
 $2(x - 6)(x + 9) = 0$
 $x = 6, -9$

Solving Quadratic Equations (D)

Name: _____

Date: _____

Solve each equation for x.

1. $12x^2 + 69x - 18 = 0$

11. $12x^2 - 84x + 135 = 0$

2. $8x^2 - 22x - 6 = 0$

12. $-12x^2 + 40x + 32 = 0$

3. $-12x^2 - 111x - 189 = 0$

13. $6x^2 - 34x - 12 = 0$

4. $-4x^2 - 30x - 54 = 0$

14. $20x^2 - 35x + 15 = 0$

5. $-2x^2 + 4x + 96 = 0$

15. $-5x^2 + 30x - 25 = 0$

6. $-9x^2 - 12x + 21 = 0$

16. $6x^2 + 28x + 16 = 0$

7. $-8x^2 - 92x - 180 = 0$

17. $8x^2 + 28x + 24 = 0$

8. $-8x^2 + 14x + 30 = 0$

18. $-9x^2 - 33x + 126 = 0$

9. $8x^2 + 76x + 96 = 0$

19. $12x^2 + 15x + 3 = 0$

10. $-12x^2 - 33x + 60 = 0$

20. $12x^2 + 100x + 168 = 0$

Solving Quadratic Equations (D) Answers

Name: _____

Date: _____

Solve each equation for x.

- $12x^2 + 69x - 18 = 0$
 $3(x + 6)(4x - 1) = 0$
 $x = -6, \frac{1}{4}$
- $8x^2 - 22x - 6 = 0$
 $2(x - 3)(4x + 1) = 0$
 $x = 3, -\frac{1}{4}$
- $-12x^2 - 111x - 189 = 0$
 $-3(4x + 9)(x + 7) = 0$
 $x = -2\frac{1}{4}, -7$
- $-4x^2 - 30x - 54 = 0$
 $-2(2x + 9)(x + 3) = 0$
 $x = -4\frac{1}{2}, -3$
- $-2x^2 + 4x + 96 = 0$
 $-2(x - 8)(x + 6) = 0$
 $x = 8, -6$
- $-9x^2 - 12x + 21 = 0$
 $-3(x - 1)(3x + 7) = 0$
 $x = 1, -2\frac{1}{3}$
- $-8x^2 - 92x - 180 = 0$
 $-4(x + 9)(2x + 5) = 0$
 $x = -9, -2\frac{1}{2}$
- $-8x^2 + 14x + 30 = 0$
 $-2(x - 3)(4x + 5) = 0$
 $x = 3, -1\frac{1}{4}$
- $8x^2 + 76x + 96 = 0$
 $4(2x + 3)(x + 8) = 0$
 $x = -1\frac{1}{2}, -8$
- $-12x^2 - 33x + 60 = 0$
 $-3(x + 4)(4x - 5) = 0$
 $x = -4, 1\frac{1}{4}$
- $12x^2 - 84x + 135 = 0$
 $3(2x - 9)(2x - 5) = 0$
 $x = 4\frac{1}{2}, 2\frac{1}{2}$
- $-12x^2 + 40x + 32 = 0$
 $-4(x - 4)(3x + 2) = 0$
 $x = 4, -\frac{2}{3}$
- $6x^2 - 34x - 12 = 0$
 $2(x - 6)(3x + 1) = 0$
 $x = 6, -\frac{1}{3}$
- $20x^2 - 35x + 15 = 0$
 $5(x - 1)(4x - 3) = 0$
 $x = 1, \frac{3}{4}$
- $-5x^2 + 30x - 25 = 0$
 $-5(x - 5)(x - 1) = 0$
 $x = 5, 1$
- $6x^2 + 28x + 16 = 0$
 $2(x + 4)(3x + 2) = 0$
 $x = -4, -\frac{2}{3}$
- $8x^2 + 28x + 24 = 0$
 $4(x + 2)(2x + 3) = 0$
 $x = -2, -1\frac{1}{2}$
- $-9x^2 - 33x + 126 = 0$
 $-3(x + 6)(3x - 7) = 0$
 $x = -6, 2\frac{1}{3}$
- $12x^2 + 15x + 3 = 0$
 $3(x + 1)(4x + 1) = 0$
 $x = -1, -\frac{1}{4}$
- $12x^2 + 100x + 168 = 0$
 $4(3x + 7)(x + 6) = 0$
 $x = -2\frac{1}{3}, -6$

Solving Quadratic Equations (E)

Name: _____

Date: _____

Solve each equation for x.

1. $8x^2 - 20x - 12 = 0$

11. $-16x^2 - 96x - 108 = 0$

2. $-8x^2 - 32x - 30 = 0$

12. $8x^2 - 28x + 24 = 0$

3. $-5x^2 - 50x - 125 = 0$

13. $-6x^2 - 75x - 189 = 0$

4. $-10x^2 + 5x + 105 = 0$

14. $-9x^2 + 15x + 84 = 0$

5. $6x^2 - 9x - 60 = 0$

15. $12x^2 + 27x + 15 = 0$

6. $-12x^2 + 12x + 189 = 0$

16. $16x^2 + 32x - 180 = 0$

7. $-12x^2 - 84x - 135 = 0$

17. $-16x^2 + 44x - 24 = 0$

8. $-20x^2 + 80x + 45 = 0$

18. $-6x^2 - 33x + 120 = 0$

9. $-4x^2 - 18x + 112 = 0$

19. $12x^2 - 63x + 60 = 0$

10. $-8x^2 - 68x - 120 = 0$

20. $12x^2 - 4x - 56 = 0$

Solving Quadratic Equations (E) Answers

Name: _____

Date: _____

Solve each equation for x.

- $8x^2 - 20x - 12 = 0$
 $4(x - 3)(2x + 1) = 0$
 $x = 3, -\frac{1}{2}$
- $-8x^2 - 32x - 30 = 0$
 $-2(2x + 5)(2x + 3) = 0$
 $x = -2\frac{1}{2}, -1\frac{1}{2}$
- $-5x^2 - 50x - 125 = 0$
 $-5(x + 5)(x + 5) = -5(x + 5)^2 = 0$
 $x = -5$
- $-10x^2 + 5x + 105 = 0$
 $-5(2x - 7)(x + 3) = 0$
 $x = 3\frac{1}{2}, -3$
- $6x^2 - 9x - 60 = 0$
 $3(2x + 5)(x - 4) = 0$
 $x = -2\frac{1}{2}, 4$
- $-12x^2 + 12x + 189 = 0$
 $-3(2x - 9)(2x + 7) = 0$
 $x = 4\frac{1}{2}, -3\frac{1}{2}$
- $-12x^2 - 84x - 135 = 0$
 $-3(2x + 5)(2x + 9) = 0$
 $x = -2\frac{1}{2}, -4\frac{1}{2}$
- $-20x^2 + 80x + 45 = 0$
 $-5(2x - 9)(2x + 1) = 0$
 $x = 4\frac{1}{2}, -\frac{1}{2}$
- $-4x^2 - 18x + 112 = 0$
 $-2(x + 8)(2x - 7) = 0$
 $x = -8, 3\frac{1}{2}$
- $-8x^2 - 68x - 120 = 0$
 $-4(2x + 5)(x + 6) = 0$
 $x = -2\frac{1}{2}, -6$
- $-16x^2 - 96x - 108 = 0$
 $-4(2x + 9)(2x + 3) = 0$
 $x = -4\frac{1}{2}, -1\frac{1}{2}$
- $8x^2 - 28x + 24 = 0$
 $4(2x - 3)(x - 2) = 0$
 $x = 1\frac{1}{2}, 2$
- $-6x^2 - 75x - 189 = 0$
 $-3(x + 9)(2x + 7) = 0$
 $x = -9, -3\frac{1}{2}$
- $-9x^2 + 15x + 84 = 0$
 $-3(x - 4)(3x + 7) = 0$
 $x = 4, -2\frac{1}{3}$
- $12x^2 + 27x + 15 = 0$
 $3(x + 1)(4x + 5) = 0$
 $x = -1, -1\frac{1}{4}$
- $16x^2 + 32x - 180 = 0$
 $4(2x - 5)(2x + 9) = 0$
 $x = 2\frac{1}{2}, -4\frac{1}{2}$
- $-16x^2 + 44x - 24 = 0$
 $-4(x - 2)(4x - 3) = 0$
 $x = 2, \frac{3}{4}$
- $-6x^2 - 33x + 120 = 0$
 $-3(x + 8)(2x - 5) = 0$
 $x = -8, 2\frac{1}{2}$
- $12x^2 - 63x + 60 = 0$
 $3(4x - 5)(x - 4) = 0$
 $x = 1\frac{1}{4}, 4$
- $12x^2 - 4x - 56 = 0$
 $4(x + 2)(3x - 7) = 0$
 $x = -2, 2\frac{1}{3}$

Solving Quadratic Equations (F)

Name: _____

Date: _____

Solve each equation for x.

1. $-16x^2 + 100x - 100 = 0$

11. $16x^2 + 180x + 324 = 0$

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

12. $5x^2 + 70x + 240 = 0$

3. $20x^2 - 20x - 75 = 0$

13. $8x^2 - 30x - 8 = 0$

4. $-4x^2 - 22x + 12 = 0$

14. $-3x^2 + 27x - 24 = 0$

5. $15x^2 - 35x - 30 = 0$

15. $8x^2 + 30x + 18 = 0$

6. $4x^2 + 38x + 18 = 0$

16. $20x^2 - 95x - 150 = 0$

7. $-12x^2 + 117x - 168 = 0$

17. $6x^2 - 20x - 50 = 0$

8. $5x^2 + 70x + 225 = 0$

18. $12x^2 - 28x - 24 = 0$

9. $9x^2 - 75x + 126 = 0$

19. $-20x^2 - 160x - 315 = 0$

10. $15x^2 + 125x + 210 = 0$

20. $8x^2 - 14x - 30 = 0$

Solving Quadratic Equations (F) Answers

Name: _____

Date: _____

Solve each equation for x.

- $-16x^2 + 100x - 100 = 0$
 $-4(4x - 5)(x - 5) = 0$
 $x = 1\frac{1}{4}, 5$
- $2x^2 - 14x + 12 = 0$
 $2(x - 6)(x - 1) = 0$
 $x = 6, 1$
- $20x^2 - 20x - 75 = 0$
 $5(2x + 3)(2x - 5) = 0$
 $x = -1\frac{1}{2}, 2\frac{1}{2}$
- $-4x^2 - 22x + 12 = 0$
 $-2(2x - 1)(x + 6) = 0$
 $x = \frac{1}{2}, -6$
- $15x^2 - 35x - 30 = 0$
 $5(3x + 2)(x - 3) = 0$
 $x = -\frac{2}{3}, 3$
- $4x^2 + 38x + 18 = 0$
 $2(2x + 1)(x + 9) = 0$
 $x = -\frac{1}{2}, -9$
- $-12x^2 + 117x - 168 = 0$
 $-3(x - 8)(4x - 7) = 0$
 $x = 8, 1\frac{3}{4}$
- $5x^2 + 70x + 225 = 0$
 $5(x + 9)(x + 5) = 0$
 $x = -9, -5$
- $9x^2 - 75x + 126 = 0$
 $3(x - 6)(3x - 7) = 0$
 $x = 6, 2\frac{1}{3}$
- $15x^2 + 125x + 210 = 0$
 $5(x + 6)(3x + 7) = 0$
 $x = -6, -2\frac{1}{3}$
- $16x^2 + 180x + 324 = 0$
 $4(4x + 9)(x + 9) = 0$
 $x = -2\frac{1}{4}, -9$
- $5x^2 + 70x + 240 = 0$
 $5(x + 6)(x + 8) = 0$
 $x = -6, -8$
- $8x^2 - 30x - 8 = 0$
 $2(x - 4)(4x + 1) = 0$
 $x = 4, -\frac{1}{4}$
- $-3x^2 + 27x - 24 = 0$
 $-3(x - 8)(x - 1) = 0$
 $x = 8, 1$
- $8x^2 + 30x + 18 = 0$
 $2(x + 3)(4x + 3) = 0$
 $x = -3, -\frac{3}{4}$
- $20x^2 - 95x - 150 = 0$
 $5(4x + 5)(x - 6) = 0$
 $x = -1\frac{1}{4}, 6$
- $6x^2 - 20x - 50 = 0$
 $2(3x + 5)(x - 5) = 0$
 $x = -1\frac{2}{3}, 5$
- $12x^2 - 28x - 24 = 0$
 $4(3x + 2)(x - 3) = 0$
 $x = -\frac{2}{3}, 3$
- $-20x^2 - 160x - 315 = 0$
 $-5(2x + 9)(2x + 7) = 0$
 $x = -4\frac{1}{2}, -3\frac{1}{2}$
- $8x^2 - 14x - 30 = 0$
 $2(x - 3)(4x + 5) = 0$
 $x = 3, -1\frac{1}{4}$

Solving Quadratic Equations (G)

Name: _____

Date: _____

Solve each equation for x.

1. $20x^2 - 15x - 50 = 0$

11. $-10x^2 + 105x - 135 = 0$

2. $20x^2 - 105x + 25 = 0$

12. $-6x^2 - 46x + 16 = 0$

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

13. $3x^2 - 15x + 12 = 0$

4. $9x^2 + 12x - 12 = 0$

14. $-16x^2 - 76x - 84 = 0$

5. $-9x^2 + 48x + 192 = 0$

15. $-12x^2 - 39x + 105 = 0$

6. $-10x^2 - 65x + 35 = 0$

16. $12x^2 + 76x + 24 = 0$

7. $5x^2 - 10x - 175 = 0$

17. $3x^2 - 18x - 48 = 0$

8. $-8x^2 + 4x + 24 = 0$

18. $12x^2 + 36x - 81 = 0$

9. $-4x^2 + 20x - 24 = 0$

19. $-10x^2 - 55x - 75 = 0$

10. $5x^2 - 5x - 210 = 0$

20. $-10x^2 - 5x + 30 = 0$

Solving Quadratic Equations (G) Answers

Name: _____

Date: _____

Solve each equation for x.

- $20x^2 - 15x - 50 = 0$
 $5(4x + 5)(x - 2) = 0$
 $x = -1\frac{1}{4}, 2$
- $20x^2 - 105x + 25 = 0$
 $5(x - 5)(4x - 1) = 0$
 $x = 5, \frac{1}{4}$
- $9x^2 + 6x - 3 = 0$
 $3(3x - 1)(x + 1) = 0$
 $x = \frac{1}{3}, -1$
- $9x^2 + 12x - 12 = 0$
 $3(3x - 2)(x + 2) = 0$
 $x = \frac{2}{3}, -2$
- $-9x^2 + 48x + 192 = 0$
 $-3(3x + 8)(x - 8) = 0$
 $x = -2\frac{2}{3}, 8$
- $-10x^2 - 65x + 35 = 0$
 $-5(2x - 1)(x + 7) = 0$
 $x = \frac{1}{2}, -7$
- $5x^2 - 10x - 175 = 0$
 $5(x - 7)(x + 5) = 0$
 $x = 7, -5$
- $-8x^2 + 4x + 24 = 0$
 $-4(x - 2)(2x + 3) = 0$
 $x = 2, -1\frac{1}{2}$
- $-4x^2 + 20x - 24 = 0$
 $-4(x - 2)(x - 3) = 0$
 $x = 2, 3$
- $5x^2 - 5x - 210 = 0$
 $5(x + 6)(x - 7) = 0$
 $x = -6, 7$
- $-10x^2 + 105x - 135 = 0$
 $-5(x - 9)(2x - 3) = 0$
 $x = 9, 1\frac{1}{2}$
- $-6x^2 - 46x + 16 = 0$
 $-2(3x - 1)(x + 8) = 0$
 $x = \frac{1}{3}, -8$
- $3x^2 - 15x + 12 = 0$
 $3(x - 4)(x - 1) = 0$
 $x = 4, 1$
- $-16x^2 - 76x - 84 = 0$
 $-4(x + 3)(4x + 7) = 0$
 $x = -3, -1\frac{3}{4}$
- $-12x^2 - 39x + 105 = 0$
 $-3(4x - 7)(x + 5) = 0$
 $x = 1\frac{3}{4}, -5$
- $12x^2 + 76x + 24 = 0$
 $4(x + 6)(3x + 1) = 0$
 $x = -6, -\frac{1}{3}$
- $3x^2 - 18x - 48 = 0$
 $3(x - 8)(x + 2) = 0$
 $x = 8, -2$
- $12x^2 + 36x - 81 = 0$
 $3(2x + 9)(2x - 3) = 0$
 $x = -4\frac{1}{2}, 1\frac{1}{2}$
- $-10x^2 - 55x - 75 = 0$
 $-5(x + 3)(2x + 5) = 0$
 $x = -3, -2\frac{1}{2}$
- $-10x^2 - 5x + 30 = 0$
 $-5(x + 2)(2x - 3) = 0$
 $x = -2, 1\frac{1}{2}$

Solving Quadratic Equations (H)

Name: _____

Date: _____

Solve each equation for x.

1. $12x^2 - 80x + 128 = 0$

11. $-12x^2 + 24x + 15 = 0$

2. $-4x^2 + 22x - 10 = 0$

12. $-12x^2 - 36x + 81 = 0$

3. $-12x^2 + 24x + 135 = 0$

13. $8x^2 + 30x + 28 = 0$

4. $9x^2 + 30x - 144 = 0$

14. $9x^2 - 24x + 12 = 0$

5. $20x^2 + 155x - 40 = 0$

15. $8x^2 + 68x + 120 = 0$

6. $-3x^2 + 27 = 0$

16. $-15x^2 - 55x + 210 = 0$

7. $-10x^2 - 95x - 210 = 0$

17. $12x^2 + 75x - 168 = 0$

8. $4x^2 + 44x + 120 = 0$

18. $-5x^2 - 45x - 100 = 0$

9. $15x^2 - 70x + 80 = 0$

19. $-6x^2 - 45x + 81 = 0$

10. $8x^2 - 40x + 18 = 0$

20. $-15x^2 + 20x + 160 = 0$

Solving Quadratic Equations (H) Answers

Name: _____

Date: _____

Solve each equation for x.

- $12x^2 - 80x + 128 = 0$
 $4(x - 4)(3x - 8) = 0$
 $x = 4, 2\frac{2}{3}$
- $-4x^2 + 22x - 10 = 0$
 $-2(x - 5)(2x - 1) = 0$
 $x = 5, \frac{1}{2}$
- $-12x^2 + 24x + 135 = 0$
 $-3(2x + 5)(2x - 9) = 0$
 $x = -2\frac{1}{2}, 4\frac{1}{2}$
- $9x^2 + 30x - 144 = 0$
 $3(3x - 8)(x + 6) = 0$
 $x = 2\frac{2}{3}, -6$
- $20x^2 + 155x - 40 = 0$
 $5(x + 8)(4x - 1) = 0$
 $x = -8, \frac{1}{4}$
- $-3x^2 + 27 = 0$
 $-3(x - 3)(x + 3) = 0$
 $x = 3, -3$
- $-10x^2 - 95x - 210 = 0$
 $-5(x + 6)(2x + 7) = 0$
 $x = -6, -3\frac{1}{2}$
- $4x^2 + 44x + 120 = 0$
 $4(x + 6)(x + 5) = 0$
 $x = -6, -5$
- $15x^2 - 70x + 80 = 0$
 $5(x - 2)(3x - 8) = 0$
 $x = 2, 2\frac{2}{3}$
- $8x^2 - 40x + 18 = 0$
 $2(2x - 1)(2x - 9) = 0$
 $x = \frac{1}{2}, 4\frac{1}{2}$
- $-12x^2 + 24x + 15 = 0$
 $-3(2x - 5)(2x + 1) = 0$
 $x = 2\frac{1}{2}, -\frac{1}{2}$
- $-12x^2 - 36x + 81 = 0$
 $-3(2x + 9)(2x - 3) = 0$
 $x = -4\frac{1}{2}, 1\frac{1}{2}$
- $8x^2 + 30x + 28 = 0$
 $2(4x + 7)(x + 2) = 0$
 $x = -1\frac{3}{4}, -2$
- $9x^2 - 24x + 12 = 0$
 $3(x - 2)(3x - 2) = 0$
 $x = 2, \frac{2}{3}$
- $8x^2 + 68x + 120 = 0$
 $4(x + 6)(2x + 5) = 0$
 $x = -6, -2\frac{1}{2}$
- $-15x^2 - 55x + 210 = 0$
 $-5(x + 6)(3x - 7) = 0$
 $x = -6, 2\frac{1}{3}$
- $12x^2 + 75x - 168 = 0$
 $3(x + 8)(4x - 7) = 0$
 $x = -8, 1\frac{3}{4}$
- $-5x^2 - 45x - 100 = 0$
 $-5(x + 5)(x + 4) = 0$
 $x = -5, -4$
- $-6x^2 - 45x + 81 = 0$
 $-3(2x - 3)(x + 9) = 0$
 $x = 1\frac{1}{2}, -9$
- $-15x^2 + 20x + 160 = 0$
 $-5(x - 4)(3x + 8) = 0$
 $x = 4, -2\frac{2}{3}$

Solving Quadratic Equations (I)

Name: _____

Date: _____

Solve each equation for x.

1. $-6x^2 + 33x + 18 = 0$

11. $-6x^2 + 2x + 48 = 0$

2. $5x^2 - 45x + 40 = 0$

12. $-15x^2 - 115x - 70 = 0$

3. $8x^2 - 28x + 12 = 0$

13. $-20x^2 + 125x - 125 = 0$

4. $-9x^2 + 30x + 24 = 0$

14. $5x^2 + 50x + 45 = 0$

5. $6x^2 - 58x + 80 = 0$

15. $-9x^2 - 21x - 6 = 0$

6. $16x^2 - 68x + 60 = 0$

16. $-12x^2 - 48x + 27 = 0$

7. $-6x^2 + 27x - 21 = 0$

17. $-6x^2 - 40x - 64 = 0$

8. $-3x^2 + 12 = 0$

18. $-15x^2 + 10x + 5 = 0$

9. $6x^2 + 20x + 16 = 0$

19. $-12x^2 + 76x - 24 = 0$

10. $-5x^2 + 25x + 70 = 0$

20. $-9x^2 + 24x - 15 = 0$

Solving Quadratic Equations (I) Answers

Name: _____

Date: _____

Solve each equation for x.

- $-6x^2 + 33x + 18 = 0$
 $-3(x - 6)(2x + 1) = 0$
 $x = 6, -\frac{1}{2}$
- $5x^2 - 45x + 40 = 0$
 $5(x - 1)(x - 8) = 0$
 $x = 1, 8$
- $8x^2 - 28x + 12 = 0$
 $4(x - 3)(2x - 1) = 0$
 $x = 3, \frac{1}{2}$
- $-9x^2 + 30x + 24 = 0$
 $-3(3x + 2)(x - 4) = 0$
 $x = -\frac{2}{3}, 4$
- $6x^2 - 58x + 80 = 0$
 $2(3x - 5)(x - 8) = 0$
 $x = 1\frac{2}{3}, 8$
- $16x^2 - 68x + 60 = 0$
 $4(x - 3)(4x - 5) = 0$
 $x = 3, 1\frac{1}{4}$
- $-6x^2 + 27x - 21 = 0$
 $-3(x - 1)(2x - 7) = 0$
 $x = 1, 3\frac{1}{2}$
- $-3x^2 + 12 = 0$
 $-3(x + 2)(x - 2) = 0$
 $x = -2, 2$
- $6x^2 + 20x + 16 = 0$
 $2(x + 2)(3x + 4) = 0$
 $x = -2, -1\frac{1}{3}$
- $-5x^2 + 25x + 70 = 0$
 $-5(x - 7)(x + 2) = 0$
 $x = 7, -2$
- $-6x^2 + 2x + 48 = 0$
 $-2(x - 3)(3x + 8) = 0$
 $x = 3, -2\frac{2}{3}$
- $-15x^2 - 115x - 70 = 0$
 $-5(x + 7)(3x + 2) = 0$
 $x = -7, -\frac{2}{3}$
- $-20x^2 + 125x - 125 = 0$
 $-5(4x - 5)(x - 5) = 0$
 $x = 1\frac{1}{4}, 5$
- $5x^2 + 50x + 45 = 0$
 $5(x + 9)(x + 1) = 0$
 $x = -9, -1$
- $-9x^2 - 21x - 6 = 0$
 $-3(3x + 1)(x + 2) = 0$
 $x = -\frac{1}{3}, -2$
- $-12x^2 - 48x + 27 = 0$
 $-3(2x + 9)(2x - 1) = 0$
 $x = -4\frac{1}{2}, \frac{1}{2}$
- $-6x^2 - 40x - 64 = 0$
 $-2(3x + 8)(x + 4) = 0$
 $x = -2\frac{2}{3}, -4$
- $-15x^2 + 10x + 5 = 0$
 $-5(3x + 1)(x - 1) = 0$
 $x = -\frac{1}{3}, 1$
- $-12x^2 + 76x - 24 = 0$
 $-4(3x - 1)(x - 6) = 0$
 $x = \frac{1}{3}, 6$
- $-9x^2 + 24x - 15 = 0$
 $-3(x - 1)(3x - 5) = 0$
 $x = 1, 1\frac{2}{3}$

Solving Quadratic Equations (J)

Name: _____

Date: _____

Solve each equation for x.

1. $9x^2 - 57x + 84 = 0$

11. $15x^2 - 65x - 50 = 0$

2. $-20x^2 + 85x - 90 = 0$

12. $-6x^2 - 4x + 32 = 0$

3. $8x^2 - 2x - 28 = 0$

13. $-8x^2 - 74x - 18 = 0$

4. $-5x^2 - 10x + 120 = 0$

14. $-12x^2 + 75x - 108 = 0$

5. $12x^2 - 100x + 168 = 0$

15. $4x^2 - 14x + 6 = 0$

6. $-12x^2 + 39x + 36 = 0$

16. $2x^2 - 10x - 12 = 0$

7. $16x^2 - 48x + 20 = 0$

17. $4x^2 - 40x + 100 = 0$

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

18. $-10x^2 - 25x + 35 = 0$

9. $5x^2 + 5x - 210 = 0$

19. $-4x^2 - 18x - 18 = 0$

10. $-8x^2 - 8x + 6 = 0$

20. $12x^2 + 32x + 20 = 0$

Solving Quadratic Equations (J) Answers

Name: _____

Date: _____

Solve each equation for x.

- $9x^2 - 57x + 84 = 0$
 $3(3x - 7)(x - 4) = 0$
 $x = 2\frac{1}{3}, 4$
- $-20x^2 + 85x - 90 = 0$
 $-5(4x - 9)(x - 2) = 0$
 $x = 2\frac{1}{4}, 2$
- $8x^2 - 2x - 28 = 0$
 $2(4x + 7)(x - 2) = 0$
 $x = -1\frac{3}{4}, 2$
- $-5x^2 - 10x + 120 = 0$
 $-5(x + 6)(x - 4) = 0$
 $x = -6, 4$
- $12x^2 - 100x + 168 = 0$
 $4(3x - 7)(x - 6) = 0$
 $x = 2\frac{1}{3}, 6$
- $-12x^2 + 39x + 36 = 0$
 $-3(x - 4)(4x + 3) = 0$
 $x = 4, -\frac{3}{4}$
- $16x^2 - 48x + 20 = 0$
 $4(2x - 5)(2x - 1) = 0$
 $x = 2\frac{1}{2}, \frac{1}{2}$
- $8x^2 + 8x - 6 = 0$
 $2(2x + 3)(2x - 1) = 0$
 $x = -1\frac{1}{2}, \frac{1}{2}$
- $5x^2 + 5x - 210 = 0$
 $5(x - 6)(x + 7) = 0$
 $x = 6, -7$
- $-8x^2 - 8x + 6 = 0$
 $-2(2x + 3)(2x - 1) = 0$
 $x = -1\frac{1}{2}, \frac{1}{2}$
- $15x^2 - 65x - 50 = 0$
 $5(x - 5)(3x + 2) = 0$
 $x = 5, -\frac{2}{3}$
- $-6x^2 - 4x + 32 = 0$
 $-2(3x + 8)(x - 2) = 0$
 $x = -2\frac{2}{3}, 2$
- $-8x^2 - 74x - 18 = 0$
 $-2(x + 9)(4x + 1) = 0$
 $x = -9, -\frac{1}{4}$
- $-12x^2 + 75x - 108 = 0$
 $-3(4x - 9)(x - 4) = 0$
 $x = 2\frac{1}{4}, 4$
- $4x^2 - 14x + 6 = 0$
 $2(x - 3)(2x - 1) = 0$
 $x = 3, \frac{1}{2}$
- $2x^2 - 10x - 12 = 0$
 $2(x + 1)(x - 6) = 0$
 $x = -1, 6$
- $4x^2 - 40x + 100 = 0$
 $4(x - 5)(x - 5) = 4(x - 5)^2 = 0$
 $x = 5$
- $-10x^2 - 25x + 35 = 0$
 $-5(2x + 7)(x - 1) = 0$
 $x = -3\frac{1}{2}, 1$
- $-4x^2 - 18x - 18 = 0$
 $-2(x + 3)(2x + 3) = 0$
 $x = -3, -1\frac{1}{2}$
- $12x^2 + 32x + 20 = 0$
 $4(x + 1)(3x + 5) = 0$
 $x = -1, -1\frac{2}{3}$