

Solving Quadratic Equations (A)

Name: _____

Date: _____

Solve each equation for x.

$$1. \quad 4x^2 - 48x + 128 = 0$$

$$11. \quad 4x^2 + 52x + 168 = 0$$

$$2. \quad 2x^2 - 28x + 96 = 0$$

$$12. \quad -3x^2 - 33x - 90 = 0$$

$$3. \quad 4x^2 - 324 = 0$$

$$13. \quad -5x^2 + 35x + 40 = 0$$

$$4. \quad 2x^2 + 12x - 54 = 0$$

$$14. \quad -4x^2 + 12x + 72 = 0$$

$$5. \quad 2x^2 - 2x - 40 = 0$$

$$15. \quad 4x^2 - 12x - 16 = 0$$

$$6. \quad -2x^2 + 26x - 72 = 0$$

$$16. \quad -5x^2 - 60x - 180 = 0$$

$$7. \quad 4x^2 - 60x + 216 = 0$$

$$17. \quad 4x^2 - 64 = 0$$

$$8. \quad -3x^2 - 39x - 108 = 0$$

$$18. \quad -2x^2 - 30x - 112 = 0$$

$$9. \quad -2x^2 - 2x + 40 = 0$$

$$19. \quad 3x^2 + 3x - 126 = 0$$

$$10. \quad -3x^2 + 9x + 162 = 0$$

$$20. \quad 3x^2 - 27x + 54 = 0$$

Solving Quadratic Equations (A) Answers

Name: _____

Date: _____

Solve each equation for x.

$$1. \quad 4x^2 - 48x + 128 = 0$$

$$4(x - 8)(x - 4) = 0$$

$$x = 8, 4$$

$$2. \quad 2x^2 - 28x + 96 = 0$$

$$2(x - 8)(x - 6) = 0$$

$$x = 8, 6$$

$$3. \quad 4x^2 - 324 = 0$$

$$4(x + 9)(x - 9) = 0$$

$$x = -9, 9$$

$$4. \quad 2x^2 + 12x - 54 = 0$$

$$2(x - 3)(x + 9) = 0$$

$$x = 3, -9$$

$$5. \quad 2x^2 - 2x - 40 = 0$$

$$2(x + 4)(x - 5) = 0$$

$$x = -4, 5$$

$$6. \quad -2x^2 + 26x - 72 = 0$$

$$-2(x - 9)(x - 4) = 0$$

$$x = 9, 4$$

$$7. \quad 4x^2 - 60x + 216 = 0$$

$$4(x - 6)(x - 9) = 0$$

$$x = 6, 9$$

$$8. \quad -3x^2 - 39x - 108 = 0$$

$$-3(x + 9)(x + 4) = 0$$

$$x = -9, -4$$

$$9. \quad -2x^2 - 2x + 40 = 0$$

$$-2(x + 5)(x - 4) = 0$$

$$x = -5, 4$$

$$10. \quad -3x^2 + 9x + 162 = 0$$

$$-3(x + 6)(x - 9) = 0$$

$$x = -6, 9$$

$$11. \quad 4x^2 + 52x + 168 = 0$$

$$4(x + 6)(x + 7) = 0$$

$$x = -6, -7$$

$$12. \quad -3x^2 - 33x - 90 = 0$$

$$-3(x + 5)(x + 6) = 0$$

$$x = -5, -6$$

$$13. \quad -5x^2 + 35x + 40 = 0$$

$$-5(x + 1)(x - 8) = 0$$

$$x = -1, 8$$

$$14. \quad -4x^2 + 12x + 72 = 0$$

$$-4(x - 6)(x + 3) = 0$$

$$x = 6, -3$$

$$15. \quad 4x^2 - 12x - 16 = 0$$

$$4(x + 1)(x - 4) = 0$$

$$x = -1, 4$$

$$16. \quad -5x^2 - 60x - 180 = 0$$

$$-5(x + 6)(x + 6) = -5(x + 6)^2 = 0$$

$$x = -6$$

$$17. \quad 4x^2 - 64 = 0$$

$$4(x - 4)(x + 4) = 0$$

$$x = 4, -4$$

$$18. \quad -2x^2 - 30x - 112 = 0$$

$$-2(x + 7)(x + 8) = 0$$

$$x = -7, -8$$

$$19. \quad 3x^2 + 3x - 126 = 0$$

$$3(x - 6)(x + 7) = 0$$

$$x = 6, -7$$

$$20. \quad 3x^2 - 27x + 54 = 0$$

$$3(x - 3)(x - 6) = 0$$

$$x = 3, 6$$

Solving Quadratic Equations (B)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -2x^2 - 10x - 12 = 0$$

$$11. \ 3x^2 + 12x - 135 = 0$$

$$2. \ 5x^2 - 60x + 135 = 0$$

$$12. \ 5x^2 + 70x + 225 = 0$$

$$3. \ 5x^2 + 35x - 40 = 0$$

$$13. \ 2x^2 - 32x + 126 = 0$$

$$4. \ -3x^2 - 33x - 84 = 0$$

$$14. \ -3x^2 - 3x + 216 = 0$$

$$5. \ -3x^2 - 51x - 216 = 0$$

$$15. \ -5x^2 - 30x + 80 = 0$$

$$6. \ 5x^2 + 15x - 140 = 0$$

$$16. \ 4x^2 + 4x - 24 = 0$$

$$7. \ -4x^2 + 4x + 120 = 0$$

$$17. \ 5x^2 + 20x - 225 = 0$$

$$8. \ -3x^2 + 9x + 162 = 0$$

$$18. \ -3x^2 - 36x - 96 = 0$$

$$9. \ -5x^2 + 75x - 280 = 0$$

$$19. \ -5x^2 - 10x + 315 = 0$$

$$10. \ 5x^2 - 5x - 100 = 0$$

$$20. \ 5x^2 + 65x + 180 = 0$$

Solving Quadratic Equations (B) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $-2x^2 - 10x - 12 = 0$
 $-2(x + 3)(x + 2) = 0$
 $x = -3, -2$

11. $3x^2 + 12x - 135 = 0$
 $3(x + 9)(x - 5) = 0$
 $x = -9, 5$

2. $5x^2 - 60x + 135 = 0$
 $5(x - 9)(x - 3) = 0$
 $x = 9, 3$

12. $5x^2 + 70x + 225 = 0$
 $5(x + 5)(x + 9) = 0$
 $x = -5, -9$

3. $5x^2 + 35x - 40 = 0$
 $5(x - 1)(x + 8) = 0$
 $x = 1, -8$

13. $2x^2 - 32x + 126 = 0$
 $2(x - 7)(x - 9) = 0$
 $x = 7, 9$

4. $-3x^2 - 33x - 84 = 0$
 $-3(x + 7)(x + 4) = 0$
 $x = -7, -4$

14. $-3x^2 - 3x + 216 = 0$
 $-3(x + 9)(x - 8) = 0$
 $x = -9, 8$

5. $-3x^2 - 51x - 216 = 0$
 $-3(x + 9)(x + 8) = 0$
 $x = -9, -8$

15. $-5x^2 - 30x + 80 = 0$
 $-5(x - 2)(x + 8) = 0$
 $x = 2, -8$

6. $5x^2 + 15x - 140 = 0$
 $5(x + 7)(x - 4) = 0$
 $x = -7, 4$

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

7. $-4x^2 + 4x + 120 = 0$
 $-4(x - 6)(x + 5) = 0$
 $x = 6, -5$

17. $5x^2 + 20x - 225 = 0$
 $5(x + 9)(x - 5) = 0$
 $x = -9, 5$

8. $-3x^2 + 9x + 162 = 0$
 $-3(x - 9)(x + 6) = 0$
 $x = 9, -6$

18. $-3x^2 - 36x - 96 = 0$
 $-3(x + 8)(x + 4) = 0$
 $x = -8, -4$

9. $-5x^2 + 75x - 280 = 0$
 $-5(x - 8)(x - 7) = 0$
 $x = 8, 7$

19. $-5x^2 - 10x + 315 = 0$
 $-5(x + 9)(x - 7) = 0$
 $x = -9, 7$

10. $5x^2 - 5x - 100 = 0$
 $5(x - 5)(x + 4) = 0$
 $x = 5, -4$

20. $5x^2 + 65x + 180 = 0$
 $5(x + 4)(x + 9) = 0$
 $x = -4, -9$

Solving Quadratic Equations (C)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -2x^2 + 50 = 0$$

$$11. \ 4x^2 - 100 = 0$$

$$2. \ -5x^2 + 60x - 160 = 0$$

$$12. \ 4x^2 + 20x + 24 = 0$$

$$3. \ -3x^2 - 24x - 45 = 0$$

$$13. \ -4x^2 - 12x + 216 = 0$$

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

$$14. \ 5x^2 - 40x - 45 = 0$$

$$5. \ 2x^2 + 4x - 126 = 0$$

$$15. \ 4x^2 - 64x + 252 = 0$$

$$6. \ -2x^2 + 32x - 126 = 0$$

$$16. \ 3x^2 + 45x + 168 = 0$$

$$7. \ 2x^2 - 6x - 36 = 0$$

$$17. \ -2x^2 - 4x + 30 = 0$$

$$8. \ -5x^2 - 35x + 40 = 0$$

$$18. \ -3x^2 + 39x - 120 = 0$$

$$9. \ 4x^2 - 36x + 56 = 0$$

$$19. \ -3x^2 - 6x + 45 = 0$$

$$10. \ -4x^2 + 64x - 256 = 0$$

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

Solving Quadratic Equations (C) Answers

Name: _____

Date: _____

Solve each equation for x.

$$1. -2x^2 + 50 = 0$$

$$-2(x - 5)(x + 5) = 0$$

$$x = 5, -5$$

$$2. -5x^2 + 60x - 160 = 0$$

$$-5(x - 4)(x - 8) = 0$$

$$x = 4, 8$$

$$3. -3x^2 - 24x - 45 = 0$$

$$-3(x + 5)(x + 3) = 0$$

$$x = -5, -3$$

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

$$2(x + 6)(x - 4) = 0$$

$$x = -6, 4$$

$$5. 2x^2 + 4x - 126 = 0$$

$$2(x - 7)(x + 9) = 0$$

$$x = 7, -9$$

$$6. -2x^2 + 32x - 126 = 0$$

$$-2(x - 7)(x - 9) = 0$$

$$x = 7, 9$$

$$7. 2x^2 - 6x - 36 = 0$$

$$2(x + 3)(x - 6) = 0$$

$$x = -3, 6$$

$$8. -5x^2 - 35x + 40 = 0$$

$$-5(x - 1)(x + 8) = 0$$

$$x = 1, -8$$

$$9. 4x^2 - 36x + 56 = 0$$

$$4(x - 7)(x - 2) = 0$$

$$x = 7, 2$$

$$10. -4x^2 + 64x - 256 = 0$$

$$-4(x - 8)(x - 8) = -4(x - 8)^2 = 0$$

$$x = 8$$

$$11. 4x^2 - 100 = 0$$

$$4(x + 5)(x - 5) = 0$$

$$x = -5, 5$$

$$12. 4x^2 + 20x + 24 = 0$$

$$4(x + 3)(x + 2) = 0$$

$$x = -3, -2$$

$$13. -4x^2 - 12x + 216 = 0$$

$$-4(x - 6)(x + 9) = 0$$

$$x = 6, -9$$

$$14. 5x^2 - 40x - 45 = 0$$

$$5(x - 9)(x + 1) = 0$$

$$x = 9, -1$$

$$15. 4x^2 - 64x + 252 = 0$$

$$4(x - 9)(x - 7) = 0$$

$$x = 9, 7$$

$$16. 3x^2 + 45x + 168 = 0$$

$$3(x + 7)(x + 8) = 0$$

$$x = -7, -8$$

$$17. -2x^2 - 4x + 30 = 0$$

$$-2(x + 5)(x - 3) = 0$$

$$x = -5, 3$$

$$18. -3x^2 + 39x - 120 = 0$$

$$-3(x - 8)(x - 5) = 0$$

$$x = 8, 5$$

$$19. -3x^2 - 6x + 45 = 0$$

$$-3(x + 5)(x - 3) = 0$$

$$x = -5, 3$$

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

$$-2(x + 1)(x - 5) = 0$$

$$x = -1, 5$$

Solving Quadratic Equations (D)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -4x^2 + 4x + 168 = 0$$

$$11. \ -3x^2 - 27x - 42 = 0$$

$$2. \ 4x^2 + 36x + 56 = 0$$

$$12. \ 5x^2 + 25x + 30 = 0$$

$$3. \ 3x^2 + 39x + 126 = 0$$

$$13. \ 4x^2 + 20x - 24 = 0$$

$$4. \ -5x^2 - 85x - 360 = 0$$

$$14. \ 2x^2 - 8x - 42 = 0$$

$$5. \ 2x^2 + 4x - 16 = 0$$

$$15. \ -3x^2 + 18x + 21 = 0$$

$$6. \ 2x^2 + 2x - 4 = 0$$

$$16. \ -2x^2 - 22x - 48 = 0$$

$$7. \ -2x^2 + 10x + 28 = 0$$

$$17. \ -3x^2 + 33x - 84 = 0$$

$$8. \ 2x^2 - 18x + 36 = 0$$

$$18. \ -5x^2 + 5x + 60 = 0$$

$$9. \ 2x^2 - 20x + 42 = 0$$

$$19. \ -4x^2 - 16x + 48 = 0$$

$$10. \ -4x^2 + 8x + 60 = 0$$

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

Solving Quadratic Equations (D) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $-4x^2 + 4x + 168 = 0$
 $-4(x + 6)(x - 7) = 0$
 $x = -6, 7$

11. $-3x^2 - 27x - 42 = 0$
 $-3(x + 2)(x + 7) = 0$
 $x = -2, -7$

2. $4x^2 + 36x + 56 = 0$
 $4(x + 7)(x + 2) = 0$
 $x = -7, -2$

12. $5x^2 + 25x + 30 = 0$
 $5(x + 2)(x + 3) = 0$
 $x = -2, -3$

3. $3x^2 + 39x + 126 = 0$
 $3(x + 6)(x + 7) = 0$
 $x = -6, -7$

13. $4x^2 + 20x - 24 = 0$
 $4(x + 6)(x - 1) = 0$
 $x = -6, 1$

4. $-5x^2 - 85x - 360 = 0$
 $-5(x + 8)(x + 9) = 0$
 $x = -8, -9$

14. $2x^2 - 8x - 42 = 0$
 $2(x - 7)(x + 3) = 0$
 $x = 7, -3$

5. $2x^2 + 4x - 16 = 0$
 $2(x - 2)(x + 4) = 0$
 $x = 2, -4$

15. $-3x^2 + 18x + 21 = 0$
 $-3(x + 1)(x - 7) = 0$
 $x = -1, 7$

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

16. $-2x^2 - 22x - 48 = 0$
 $-2(x + 3)(x + 8) = 0$
 $x = -3, -8$

7. $-2x^2 + 10x + 28 = 0$
 $-2(x + 2)(x - 7) = 0$
 $x = -2, 7$

17. $-3x^2 + 33x - 84 = 0$
 $-3(x - 4)(x - 7) = 0$
 $x = 4, 7$

8. $2x^2 - 18x + 36 = 0$
 $2(x - 3)(x - 6) = 0$
 $x = 3, 6$

18. $-5x^2 + 5x + 60 = 0$
 $-5(x - 4)(x + 3) = 0$
 $x = 4, -3$

9. $2x^2 - 20x + 42 = 0$
 $2(x - 7)(x - 3) = 0$
 $x = 7, 3$

19. $-4x^2 - 16x + 48 = 0$
 $-4(x - 2)(x + 6) = 0$
 $x = 2, -6$

10. $-4x^2 + 8x + 60 = 0$
 $-4(x + 3)(x - 5) = 0$
 $x = -3, 5$

20. $-2x^2 + 8x + 24 = 0$
 $-2(x + 2)(x - 6) = 0$
 $x = -2, 6$

Solving Quadratic Equations (E)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ 5x^2 - 125 = 0$$

$$11. \ -5x^2 - 15x + 90 = 0$$

$$2. \ -4x^2 - 60x - 216 = 0$$

$$12. \ 3x^2 - 3x - 126 = 0$$

$$3. \ -2x^2 - 4x - 2 = 0$$

$$13. \ 4x^2 + 44x + 96 = 0$$

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

$$14. \ 4x^2 - 8x - 60 = 0$$

$$5. \ 4x^2 + 24x - 64 = 0$$

$$15. \ -2x^2 + 32 = 0$$

$$6. \ -4x^2 - 24x - 32 = 0$$

$$16. \ -5x^2 - 45x - 40 = 0$$

$$7. \ -5x^2 - 50x - 120 = 0$$

$$17. \ -3x^2 + 36x - 105 = 0$$

$$8. \ 5x^2 + 20x - 160 = 0$$

$$18. \ 3x^2 + 9x - 120 = 0$$

$$9. \ 5x^2 - 40x + 60 = 0$$

$$19. \ 4x^2 + 4x - 48 = 0$$

$$10. \ -4x^2 + 8x - 4 = 0$$

$$20. \ 2x^2 - 18x + 16 = 0$$

Solving Quadratic Equations (E) Answers

Name: _____

Date: _____

Solve each equation for x.

$$1. \quad 5x^2 - 125 = 0$$

$$5(x - 5)(x + 5) = 0$$

$$x = 5, -5$$

$$2. \quad -4x^2 - 60x - 216 = 0$$

$$-4(x + 9)(x + 6) = 0$$

$$x = -9, -6$$

$$3. \quad -2x^2 - 4x - 2 = 0$$

$$-2(x + 1)(x + 1) = -2(x + 1)^2 = 0$$

$$x = -1$$

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

$$3(x - 8)(x - 5) = 0$$

$$x = 8, 5$$

$$5. \quad 4x^2 + 24x - 64 = 0$$

$$4(x - 2)(x + 8) = 0$$

$$x = 2, -8$$

$$6. \quad -4x^2 - 24x - 32 = 0$$

$$-4(x + 4)(x + 2) = 0$$

$$x = -4, -2$$

$$7. \quad -5x^2 - 50x - 120 = 0$$

$$-5(x + 6)(x + 4) = 0$$

$$x = -6, -4$$

$$8. \quad 5x^2 + 20x - 160 = 0$$

$$5(x + 8)(x - 4) = 0$$

$$x = -8, 4$$

$$9. \quad 5x^2 - 40x + 60 = 0$$

$$5(x - 6)(x - 2) = 0$$

$$x = 6, 2$$

$$10. \quad -4x^2 + 8x - 4 = 0$$

$$-4(x - 1)(x - 1) = -4(x - 1)^2 = 0$$

$$x = 1$$

$$11. \quad -5x^2 - 15x + 90 = 0$$

$$-5(x + 6)(x - 3) = 0$$

$$x = -6, 3$$

$$12. \quad 3x^2 - 3x - 126 = 0$$

$$3(x - 7)(x + 6) = 0$$

$$x = 7, -6$$

$$13. \quad 4x^2 + 44x + 96 = 0$$

$$4(x + 8)(x + 3) = 0$$

$$x = -8, -3$$

$$14. \quad 4x^2 - 8x - 60 = 0$$

$$4(x + 3)(x - 5) = 0$$

$$x = -3, 5$$

$$15. \quad -2x^2 + 32 = 0$$

$$-2(x - 4)(x + 4) = 0$$

$$x = 4, -4$$

$$16. \quad -5x^2 - 45x - 40 = 0$$

$$-5(x + 8)(x + 1) = 0$$

$$x = -8, -1$$

$$17. \quad -3x^2 + 36x - 105 = 0$$

$$-3(x - 7)(x - 5) = 0$$

$$x = 7, 5$$

$$18. \quad 3x^2 + 9x - 120 = 0$$

$$3(x + 8)(x - 5) = 0$$

$$x = -8, 5$$

$$19. \quad 4x^2 + 4x - 48 = 0$$

$$4(x - 3)(x + 4) = 0$$

$$x = 3, -4$$

$$20. \quad 2x^2 - 18x + 16 = 0$$

$$2(x - 1)(x - 8) = 0$$

$$x = 1, 8$$

Solving Quadratic Equations (F)

Name: _____

Date: _____

Solve each equation for x.

$$1. \quad 4x^2 - 8x - 252 = 0$$

$$11. \quad -2x^2 + 128 = 0$$

$$2. \quad -3x^2 - 9x + 30 = 0$$

$$12. \quad -3x^2 + 48x - 189 = 0$$

$$3. \quad 4x^2 + 8x - 12 = 0$$

$$13. \quad 2x^2 - 14x - 16 = 0$$

$$4. \quad -3x^2 - 51x - 216 = 0$$

$$14. \quad 2x^2 - 8x - 90 = 0$$

$$5. \quad 4x^2 - 44x + 112 = 0$$

$$15. \quad 4x^2 - 4x - 288 = 0$$

$$6. \quad -2x^2 + 20x - 18 = 0$$

$$16. \quad -3x^2 + 6x + 9 = 0$$

$$7. \quad -2x^2 - 22x - 36 = 0$$

$$17. \quad -2x^2 + 2x + 60 = 0$$

$$8. \quad 5x^2 - 50x + 125 = 0$$

$$18. \quad -4x^2 + 20x + 144 = 0$$

$$9. \quad -3x^2 + 30x - 72 = 0$$

$$19. \quad 4x^2 - 4x - 224 = 0$$

$$10. \quad -3x^2 + 108 = 0$$

$$20. \quad 3x^2 - 48 = 0$$

Solving Quadratic Equations (F) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $4x^2 - 8x - 252 = 0$

$4(x - 9)(x + 7) = 0$

$x = 9, -7$

2. $-3x^2 - 9x + 30 = 0$

$-3(x - 2)(x + 5) = 0$

$x = 2, -5$

3. $4x^2 + 8x - 12 = 0$

$4(x + 3)(x - 1) = 0$

$x = -3, 1$

4. $-3x^2 - 51x - 216 = 0$

$-3(x + 9)(x + 8) = 0$

$x = -9, -8$

5. $4x^2 - 44x + 112 = 0$

$4(x - 4)(x - 7) = 0$

$x = 4, 7$

6. $-2x^2 + 20x - 18 = 0$

$-2(x - 9)(x - 1) = 0$

$x = 9, 1$

7. $-2x^2 - 22x - 36 = 0$

$-2(x + 9)(x + 2) = 0$

$x = -9, -2$

8. $5x^2 - 50x + 125 = 0$

$5(x - 5)(x - 5) = 5(x - 5)^2 = 0$

$x = 5$

9. $-3x^2 + 30x - 72 = 0$

$-3(x - 6)(x - 4) = 0$

$x = 6, 4$

10. $-3x^2 + 108 = 0$

$-3(x - 6)(x + 6) = 0$

$x = 6, -6$

11. $-2x^2 + 128 = 0$

$-2(x + 8)(x - 8) = 0$

$x = -8, 8$

12. $-3x^2 + 48x - 189 = 0$

$-3(x - 9)(x - 7) = 0$

$x = 9, 7$

13. $2x^2 - 14x - 16 = 0$

$2(x + 1)(x - 8) = 0$

$x = -1, 8$

14. $2x^2 - 8x - 90 = 0$

$2(x + 5)(x - 9) = 0$

$x = -5, 9$

15. $4x^2 - 4x - 288 = 0$

$4(x + 8)(x - 9) = 0$

$x = -8, 9$

16. $-3x^2 + 6x + 9 = 0$

$-3(x - 3)(x + 1) = 0$

$x = 3, -1$

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

$-2(x - 6)(x + 5) = 0$

$x = 6, -5$

18. $-4x^2 + 20x + 144 = 0$

$-4(x + 4)(x - 9) = 0$

$x = -4, 9$

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

$4(x + 7)(x - 8) = 0$

$x = -7, 8$

20. $3x^2 - 48 = 0$

$3(x - 4)(x + 4) = 0$

$x = 4, -4$

Solving Quadratic Equations (G)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -4x^2 + 8x + 252 = 0$$

$$11. \ 5x^2 - 5x - 280 = 0$$

$$2. \ -4x^2 - 36x - 72 = 0$$

$$12. \ -3x^2 - 39x - 108 = 0$$

$$3. \ 4x^2 - 4x - 8 = 0$$

$$13. \ 2x^2 - 6x - 108 = 0$$

$$4. \ -3x^2 - 15x + 42 = 0$$

$$14. \ -2x^2 + 24x - 64 = 0$$

$$5. \ 3x^2 - 36x + 81 = 0$$

$$15. \ 5x^2 - 320 = 0$$

$$6. \ 5x^2 + 10x - 175 = 0$$

$$16. \ -2x^2 - 6x + 56 = 0$$

$$7. \ -2x^2 - 6x + 108 = 0$$

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

$$8. \ -3x^2 + 33x - 72 = 0$$

$$18. \ -3x^2 + 12x - 9 = 0$$

$$9. \ -2x^2 + 36x - 162 = 0$$

$$19. \ 4x^2 - 12x + 8 = 0$$

$$10. \ -2x^2 - 34x - 144 = 0$$

$$20. \ 3x^2 + 12x + 12 = 0$$

Solving Quadratic Equations (G) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $-4x^2 + 8x + 252 = 0$
 $-4(x + 7)(x - 9) = 0$
 $x = -7, 9$

11. $5x^2 - 5x - 280 = 0$
 $5(x + 7)(x - 8) = 0$
 $x = -7, 8$

2. $-4x^2 - 36x - 72 = 0$
 $-4(x + 3)(x + 6) = 0$
 $x = -3, -6$

12. $-3x^2 - 39x - 108 = 0$
 $-3(x + 4)(x + 9) = 0$
 $x = -4, -9$

3. $4x^2 - 4x - 8 = 0$
 $4(x - 2)(x + 1) = 0$
 $x = 2, -1$

13. $2x^2 - 6x - 108 = 0$
 $2(x + 6)(x - 9) = 0$
 $x = -6, 9$

4. $-3x^2 - 15x + 42 = 0$
 $-3(x - 2)(x + 7) = 0$
 $x = 2, -7$

14. $-2x^2 + 24x - 64 = 0$
 $-2(x - 8)(x - 4) = 0$
 $x = 8, 4$

5. $3x^2 - 36x + 81 = 0$
 $3(x - 9)(x - 3) = 0$
 $x = 9, 3$

15. $5x^2 - 320 = 0$
 $5(x - 8)(x + 8) = 0$
 $x = 8, -8$

6. $5x^2 + 10x - 175 = 0$
 $5(x + 7)(x - 5) = 0$
 $x = -7, 5$

16. $-2x^2 - 6x + 56 = 0$
 $-2(x - 4)(x + 7) = 0$
 $x = 4, -7$

7. $-2x^2 - 6x + 108 = 0$
 $-2(x + 9)(x - 6) = 0$
 $x = -9, 6$

17. $3x^2 - 3x - 18 = 0$
 $3(x + 2)(x - 3) = 0$
 $x = -2, 3$

8. $-3x^2 + 33x - 72 = 0$
 $-3(x - 3)(x - 8) = 0$
 $x = 3, 8$

18. $-3x^2 + 12x - 9 = 0$
 $-3(x - 1)(x - 3) = 0$
 $x = 1, 3$

9. $-2x^2 + 36x - 162 = 0$
 $-2(x - 9)(x - 9) = -2(x - 9)^2 = 0$
 $x = 9$

19. $4x^2 - 12x + 8 = 0$
 $4(x - 2)(x - 1) = 0$
 $x = 2, 1$

10. $-2x^2 - 34x - 144 = 0$
 $-2(x + 8)(x + 9) = 0$
 $x = -8, -9$

20. $3x^2 + 12x + 12 = 0$
 $3(x + 2)(x + 2) = 3(x + 2)^2 = 0$
 $x = -2$

Solving Quadratic Equations (H)

Name: _____

Date: _____

Solve each equation for x.

$$1. \quad 2x^2 - 14x - 36 = 0$$

$$11. \quad -4x^2 + 36x - 80 = 0$$

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

$$12. \quad 3x^2 + 12x + 9 = 0$$

$$3. \quad -4x^2 - 28x - 40 = 0$$

$$13. \quad -4x^2 - 4x + 224 = 0$$

$$4. \quad 5x^2 + 60x + 160 = 0$$

$$14. \quad 4x^2 - 100 = 0$$

$$5. \quad 5x^2 - 35x - 40 = 0$$

$$15. \quad -5x^2 - 20x - 15 = 0$$

$$6. \quad -5x^2 + 5x + 210 = 0$$

$$16. \quad 4x^2 - 256 = 0$$

$$7. \quad 5x^2 - 20 = 0$$

$$17. \quad -2x^2 + 22x - 36 = 0$$

$$8. \quad 2x^2 + 4x - 48 = 0$$

$$18. \quad 2x^2 - 6x + 4 = 0$$

$$9. \quad -5x^2 - 70x - 240 = 0$$

$$19. \quad 5x^2 + 5x - 30 = 0$$

$$10. \quad -4x^2 - 8x + 140 = 0$$

$$20. \quad 3x^2 - 42x + 147 = 0$$

Solving Quadratic Equations (H) Answers

Name: _____

Date: _____

Solve each equation for x.

1. $2x^2 - 14x - 36 = 0$

$2(x + 2)(x - 9) = 0$

$x = -2, 9$

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

$3(x - 5)(x - 8) = 0$

$x = 5, 8$

3. $-4x^2 - 28x - 40 = 0$

$-4(x + 2)(x + 5) = 0$

$x = -2, -5$

4. $5x^2 + 60x + 160 = 0$

$5(x + 4)(x + 8) = 0$

$x = -4, -8$

5. $5x^2 - 35x - 40 = 0$

$5(x + 1)(x - 8) = 0$

$x = -1, 8$

6. $-5x^2 + 5x + 210 = 0$

$-5(x - 7)(x + 6) = 0$

$x = 7, -6$

7. $5x^2 - 20 = 0$

$5(x + 2)(x - 2) = 0$

$x = -2, 2$

8. $2x^2 + 4x - 48 = 0$

$2(x - 4)(x + 6) = 0$

$x = 4, -6$

9. $-5x^2 - 70x - 240 = 0$

$-5(x + 8)(x + 6) = 0$

$x = -8, -6$

10. $-4x^2 - 8x + 140 = 0$

$-4(x + 7)(x - 5) = 0$

$x = -7, 5$

11. $-4x^2 + 36x - 80 = 0$

$-4(x - 5)(x - 4) = 0$

$x = 5, 4$

12. $3x^2 + 12x + 9 = 0$

$3(x + 1)(x + 3) = 0$

$x = -1, -3$

13. $-4x^2 - 4x + 224 = 0$

$-4(x - 7)(x + 8) = 0$

$x = 7, -8$

14. $4x^2 - 100 = 0$

$4(x + 5)(x - 5) = 0$

$x = -5, 5$

15. $-5x^2 - 20x - 15 = 0$

$-5(x + 3)(x + 1) = 0$

$x = -3, -1$

16. $4x^2 - 256 = 0$

$4(x - 8)(x + 8) = 0$

$x = 8, -8$

17. $-2x^2 + 22x - 36 = 0$

$-2(x - 9)(x - 2) = 0$

$x = 9, 2$

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

$2(x - 2)(x - 1) = 0$

$x = 2, 1$

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

$5(x + 3)(x - 2) = 0$

$x = -3, 2$

20. $3x^2 - 42x + 147 = 0$

$3(x - 7)(x - 7) = 3(x - 7)^2 = 0$

$x = 7$

Solving Quadratic Equations (I)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -3x^2 + 27x - 54 = 0$$

$$11. \ -5x^2 - 35x - 60 = 0$$

$$2. \ 3x^2 - 12x - 96 = 0$$

$$12. \ 4x^2 + 52x + 160 = 0$$

$$3. \ 5x^2 + 50x + 80 = 0$$

$$13. \ 2x^2 - 2x - 12 = 0$$

$$4. \ 2x^2 - 18x + 36 = 0$$

$$14. \ 4x^2 - 60x + 224 = 0$$

$$5. \ 4x^2 - 12x - 16 = 0$$

$$15. \ 2x^2 + 30x + 112 = 0$$

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

$$16. \ -4x^2 - 16x + 20 = 0$$

$$7. \ -4x^2 - 4x + 24 = 0$$

$$17. \ -4x^2 - 48x - 128 = 0$$

$$8. \ -4x^2 + 24x - 32 = 0$$

$$18. \ 5x^2 + 50x + 45 = 0$$

$$9. \ -3x^2 - 39x - 108 = 0$$

$$19. \ 2x^2 + 10x + 8 = 0$$

$$10. \ 5x^2 + 65x + 210 = 0$$

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

Solving Quadratic Equations (I) Answers

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -3x^2 + 27x - 54 = 0$$
$$\textcolor{red}{-3(x - 6)(x - 3) = 0}$$
$$x = 6, 3$$

$$2. \ 3x^2 - 12x - 96 = 0$$
$$\textcolor{red}{3(x + 4)(x - 8) = 0}$$
$$x = -4, 8$$

$$3. \ 5x^2 + 50x + 80 = 0$$
$$\textcolor{red}{5(x + 8)(x + 2) = 0}$$
$$x = -8, -2$$

$$4. \ 2x^2 - 18x + 36 = 0$$
$$\textcolor{red}{2(x - 3)(x - 6) = 0}$$
$$x = 3, 6$$

$$5. \ 4x^2 - 12x - 16 = 0$$
$$\textcolor{red}{4(x + 1)(x - 4) = 0}$$
$$x = -1, 4$$

$$6. \ -2x^2 + 8x - 6 = 0$$
$$\textcolor{red}{-2(x - 1)(x - 3) = 0}$$
$$x = 1, 3$$

$$7. \ -4x^2 - 4x + 24 = 0$$
$$\textcolor{red}{-4(x + 3)(x - 2) = 0}$$
$$x = -3, 2$$

$$8. \ -4x^2 + 24x - 32 = 0$$
$$\textcolor{red}{-4(x - 4)(x - 2) = 0}$$
$$x = 4, 2$$

$$9. \ -3x^2 - 39x - 108 = 0$$
$$\textcolor{red}{-3(x + 4)(x + 9) = 0}$$
$$x = -4, -9$$

$$10. \ 5x^2 + 65x + 210 = 0$$
$$\textcolor{red}{5(x + 6)(x + 7) = 0}$$
$$x = -6, -7$$

$$11. \ -5x^2 - 35x - 60 = 0$$
$$\textcolor{red}{-5(x + 3)(x + 4) = 0}$$
$$x = -3, -4$$

$$12. \ 4x^2 + 52x + 160 = 0$$
$$\textcolor{red}{4(x + 5)(x + 8) = 0}$$
$$x = -5, -8$$

$$13. \ 2x^2 - 2x - 12 = 0$$
$$\textcolor{red}{2(x - 3)(x + 2) = 0}$$
$$x = 3, -2$$

$$14. \ 4x^2 - 60x + 224 = 0$$
$$\textcolor{red}{4(x - 7)(x - 8) = 0}$$
$$x = 7, 8$$

$$15. \ 2x^2 + 30x + 112 = 0$$
$$\textcolor{red}{2(x + 8)(x + 7) = 0}$$
$$x = -8, -7$$

$$16. \ -4x^2 - 16x + 20 = 0$$
$$\textcolor{red}{-4(x + 5)(x - 1) = 0}$$
$$x = -5, 1$$

$$17. \ -4x^2 - 48x - 128 = 0$$
$$\textcolor{red}{-4(x + 4)(x + 8) = 0}$$
$$x = -4, -8$$

$$18. \ 5x^2 + 50x + 45 = 0$$
$$\textcolor{red}{5(x + 1)(x + 9) = 0}$$
$$x = -1, -9$$

$$19. \ 2x^2 + 10x + 8 = 0$$
$$\textcolor{red}{2(x + 1)(x + 4) = 0}$$
$$x = -1, -4$$

$$20. \ -2x^2 + 10x - 8 = 0$$
$$\textcolor{red}{-2(x - 4)(x - 1) = 0}$$
$$x = 4, 1$$

Solving Quadratic Equations (J)

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -3x^2 + 6x + 45 = 0$$

$$11. \ 4x^2 + 52x + 168 = 0$$

$$2. \ 2x^2 - 22x + 48 = 0$$

$$12. \ -4x^2 + 28x - 24 = 0$$

$$3. \ -4x^2 + 4x + 24 = 0$$

$$13. \ 3x^2 - 18x - 21 = 0$$

$$4. \ -2x^2 - 24x - 70 = 0$$

$$14. \ -5x^2 + 20x + 160 = 0$$

$$5. \ 3x^2 - 27x + 60 = 0$$

$$15. \ 3x^2 - 15x - 42 = 0$$

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

$$16. \ 3x^2 + 36x + 108 = 0$$

$$7. \ 2x^2 - 12x - 54 = 0$$

$$17. \ 2x^2 - 14x + 24 = 0$$

$$8. \ -3x^2 - 9x - 6 = 0$$

$$18. \ -4x^2 + 36x - 32 = 0$$

$$9. \ 2x^2 + 32x + 126 = 0$$

$$19. \ -3x^2 + 33x - 54 = 0$$

$$10. \ -2x^2 - 18x - 16 = 0$$

$$20. \ 3x^2 + 27x + 54 = 0$$

Solving Quadratic Equations (J) Answers

Name: _____

Date: _____

Solve each equation for x.

$$1. \ -3x^2 + 6x + 45 = 0$$
$$\textcolor{red}{-3(x - 5)(x + 3) = 0}$$
$$\textcolor{red}{x = 5, -3}$$

$$2. \ 2x^2 - 22x + 48 = 0$$
$$\textcolor{red}{2(x - 3)(x - 8) = 0}$$
$$\textcolor{red}{x = 3, 8}$$

$$3. \ -4x^2 + 4x + 24 = 0$$
$$\textcolor{red}{-4(x + 2)(x - 3) = 0}$$
$$\textcolor{red}{x = -2, 3}$$

$$4. \ -2x^2 - 24x - 70 = 0$$
$$\textcolor{red}{-2(x + 7)(x + 5) = 0}$$
$$\textcolor{red}{x = -7, -5}$$

$$5. \ 3x^2 - 27x + 60 = 0$$
$$\textcolor{red}{3(x - 4)(x - 5) = 0}$$
$$\textcolor{red}{x = 4, 5}$$

$$6. \ -2x^2 + 6x + 20 = 0$$
$$\textcolor{red}{-2(x + 2)(x - 5) = 0}$$
$$\textcolor{red}{x = -2, 5}$$

$$7. \ 2x^2 - 12x - 54 = 0$$
$$\textcolor{red}{2(x - 9)(x + 3) = 0}$$
$$\textcolor{red}{x = 9, -3}$$

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

$$9. \ 2x^2 + 32x + 126 = 0$$
$$\textcolor{red}{2(x + 7)(x + 9) = 0}$$
$$\textcolor{red}{x = -7, -9}$$

$$10. \ -2x^2 - 18x - 16 = 0$$
$$\textcolor{red}{-2(x + 8)(x + 1) = 0}$$
$$\textcolor{red}{x = -8, -1}$$

$$11. \ 4x^2 + 52x + 168 = 0$$
$$\textcolor{red}{4(x + 7)(x + 6) = 0}$$
$$\textcolor{red}{x = -7, -6}$$

$$12. \ -4x^2 + 28x - 24 = 0$$
$$\textcolor{red}{-4(x - 1)(x - 6) = 0}$$
$$\textcolor{red}{x = 1, 6}$$

$$13. \ 3x^2 - 18x - 21 = 0$$
$$\textcolor{red}{3(x - 7)(x + 1) = 0}$$
$$\textcolor{red}{x = 7, -1}$$

$$14. \ -5x^2 + 20x + 160 = 0$$
$$\textcolor{red}{-5(x + 4)(x - 8) = 0}$$
$$\textcolor{red}{x = -4, 8}$$

$$15. \ 3x^2 - 15x - 42 = 0$$
$$\textcolor{red}{3(x - 7)(x + 2) = 0}$$
$$\textcolor{red}{x = 7, -2}$$

$$16. \ 3x^2 + 36x + 108 = 0$$
$$\textcolor{red}{3(x + 6)(x + 6) = 3(x + 6)^2 = 0}$$
$$\textcolor{red}{x = -6}$$

$$17. \ 2x^2 - 14x + 24 = 0$$
$$\textcolor{red}{2(x - 4)(x - 3) = 0}$$
$$\textcolor{red}{x = 4, 3}$$

$$18. \ -4x^2 + 36x - 32 = 0$$
$$\textcolor{red}{-4(x - 8)(x - 1) = 0}$$
$$\textcolor{red}{x = 8, 1}$$

$$19. \ -3x^2 + 33x - 54 = 0$$
$$\textcolor{red}{-3(x - 2)(x - 9) = 0}$$
$$\textcolor{red}{x = 2, 9}$$

$$20. \ 3x^2 + 27x + 54 = 0$$
$$\textcolor{red}{3(x + 3)(x + 6) = 0}$$
$$\textcolor{red}{x = -3, -6}$$