Solving Quadratic Equations (J)

Name: _____ Date: _____

Solve each equation for x.

1. $-2x^2 + 23x - 63 = 0$
2. $-2x^2 + 13x - 21 = 0$
3. $2x^2 + 5x + 2 = 0$
4. $-4x^2 - 3x + 10 = 0$
5. $-3x^2 - 11x - 10 = 0$
6. $-4x^2 + 37x - 40 = 0$
7. $2x^2 - 13x - 24 = 0$
8. $x^2 - 7x - 18 = 0$
9. $-2x^2 - 3x + 35 = 0$
10. $-3x^2 + 19x + 14 = 0$
11. $4x^2 - 12x + 9 = 0$
12. $-3x^2 - 20x + 7 = 0$
13. $2x^2 + 3x - 27 = 0$
14. $-2x^2 - 23x - 45 = 0$
15. $-3x^2 - 8x - 4 = 0$
16. $4x^2 - 24x + 35 = 0$
17. $-x^2 - 14x - 48 = 0$
18. $4x^2 + 23x + 15 = 0$
19. $3x^2 - 31x + 56 = 0$
20. $3x^2 + 34x + 63 = 0$

Solving Quadratic Equations (J) Answers

Name: _____ Date: _____

Solve each equation for x.

1. $-2x^2 + 23x - 63 = 0$
   $-(x - 7)(2x - 9) = 0$
   $x = 7, 4\frac{1}{2}$

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

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

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

5. $-3x^2 - 11x - 10 = 0$
   $-(x + 2)(3x + 5) = 0$
   $x = -2, -1\frac{2}{3}$

6. $-4x^2 + 37x - 40 = 0$
   $-(x - 8)(4x - 5) = 0$
   $x = 8, 1\frac{1}{4}$

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

8. $x^2 - 7x - 18 = 0$
   $(x - 9)(x + 2) = 0$
   $x = 9, -2$

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

10. $-3x^2 + 19x + 14 = 0$
    $-(x - 7)(3x + 2) = 0$
    $x = 7, -\frac{2}{3}$

11. $4x^2 - 12x + 9 = 0$
    $(2x - 3)(2x - 3) = (2x - 3)^2 = 0$
    $x = 1\frac{1}{2}$

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

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

14. $-2x^2 - 23x - 45 = 0$
    $-(2x + 5)(x + 9) = 0$
    $x = -2\frac{1}{2}, -9$

15. $-3x^2 - 8x - 4 = 0$
    $-(x + 2)(3x + 2) = 0$
    $x = -2, -\frac{2}{3}$

16. $4x^2 - 24x + 35 = 0$
    $(2x - 7)(2x - 5) = 0$
    $x = 3\frac{1}{2}, 2\frac{1}{2}$

17. $-x^2 - 14x - 48 = 0$
    $-(x + 8)(x + 6) = 0$
    $x = -8, -6$

18. $4x^2 + 23x + 15 = 0$
    $(4x + 3)(x + 5) = 0$
    $x = -\frac{3}{4}, -5$

19. $3x^2 - 31x + 56 = 0$
    $(x - 8)(3x - 7) = 0$
    $x = 8, 2\frac{1}{3}$

20. $3x^2 + 34x + 63 = 0$
    $(x + 9)(3x + 7) = 0$
    $x = -9, -2\frac{1}{3}$