Solving Quadratic Equations (F)

Name: _____ Date: _____

Solve each equation for x.

1. $30x^2 + 13x - 3 = 0$
2. $25x^2 + 5x - 12 = 0$
3. $-30x^2 - 89x - 63 = 0$
4. $63x^2 - 53x + 10 = 0$
5. $-8x^2 - 49x + 49 = 0$
6. $12x^2 - 4x - 1 = 0$
7. $16x^2 - 24x + 9 = 0$
8. $8x^2 - 30x + 25 = 0$
9. $-56x^2 + 43x + 24 = 0$
10. $28x^2 - 31x + 6 = 0$
11. $-45x^2 + 58x + 7 = 0$
12. $36x^2 - 25 = 0$
13. $64x^2 - 16x - 63 = 0$
14. $-42x^2 - 13x + 40 = 0$
15. $-16x^2 + 42x - 5 = 0$
16. $40x^2 - 49x + 15 = 0$
17. $-36x^2 + 25x + 25 = 0$
18. $20x^2 - 41x + 20 = 0$
19. $3x^2 - 14x - 49 = 0$
20. $9x^2 - 47x + 10 = 0$

Solving Quadratic Equations (F) Answers

Name: _____ Date: _____

Solve each equation for x.

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

2. $25x^2 + 5x - 12 = 0$
   $(5x + 4)(5x - 3) = 0$
   $x = -\frac{4}{5}, \frac{3}{5}$

3. $-30x^2 - 89x - 63 = 0$
   $-(5x + 9)(6x + 7) = 0$
   $x = -1\frac{4}{5}, -1\frac{1}{6}$

4. $63x^2 - 53x + 10 = 0$
   $(9x - 5)(7x - 2) = 0$
   $x = \frac{5}{9}, \frac{2}{7}$

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

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

7. $16x^2 - 24x + 9 = 0$
   $(4x - 3)(4x - 3) = (4x - 3)^2 = 0$
   $x = \frac{3}{4}$

8. $8x^2 - 30x + 25 = 0$
   $(2x - 5)(4x - 5) = 0$
   $x = 2\frac{1}{2}, 1\frac{1}{4}$

9. $-56x^2 + 43x + 24 = 0$
   $-(7x - 8)(8x + 3) = 0$
   $x = 1\frac{1}{7}, -\frac{3}{8}$

10. $28x^2 - 31x + 6 = 0$
    $(7x - 6)(4x - 1) = 0$
    $x = \frac{6}{7}, \frac{1}{4}$

11. $-45x^2 + 58x + 7 = 0$
    $-(5x - 7)(9x + 1) = 0$
    $x = 1\frac{2}{5}, -\frac{1}{9}$

12. $36x^2 - 25 = 0$
    $(6x + 5)(6x - 5) = 0$
    $x = -\frac{5}{6}, \frac{5}{6}$

13. $64x^2 - 16x - 63 = 0$
    $(8x + 7)(8x - 9) = 0$
    $x = -\frac{7}{8}, 1\frac{1}{8}$

14. $-42x^2 - 13x + 40 = 0$
    $-(6x - 5)(7x + 8) = 0$
    $x = \frac{5}{6}, -1\frac{1}{7}$

15. $-16x^2 + 42x - 5 = 0$
    $-(2x - 5)(8x - 1) = 0$
    $x = 2\frac{1}{2}, \frac{1}{8}$

16. $40x^2 - 49x + 15 = 0$
    $(5x - 3)(8x - 5) = 0$
    $x = \frac{3}{5}, \frac{5}{8}$

17. $-36x^2 + 25x + 25 = 0$
    $-(4x - 5)(9x + 5) = 0$
    $x = 1\frac{1}{4}, -\frac{5}{9}$

18. $20x^2 - 41x + 20 = 0$
    $(4x - 5)(5x - 4) = 0$
    $x = 1\frac{1}{4}, \frac{4}{5}$

19. $3x^2 - 14x - 49 = 0$
    $(3x + 7)(x - 7) = 0$
    $x = -2\frac{1}{3}, 7$

20. $9x^2 - 47x + 10 = 0$
    $(9x - 2)(x - 5) = 0$
    $x = \frac{2}{9}, 5$