Solving Quadratic Equations (G)

Solve each equation for x

1. $12x^2 + 10x - 5 = 7$

2. $45x^2 - 36x - 43 = 38$

3. $-4x^2 - 8x - 2 = 1$

4. $-2x^2 - 15x - 7 = 11$

5. $-18x^2 + 63x - 31 = 14$

6. $54x^2 - 54x - 20 = 4$

7. $-9x^2 - 66x + 28 = -20$

8. $-6x^2 - 40x = -14$

9. $-8x^2 + 32x - 9 = 21$

10. $24x^2 - 67x + 30 = -15$

11. $36x^2 - 28x - 2 = 6$

12. $-42x^2 + 26x - 3 = 1$

Solving Quadratic Equations (G) Answers

Solve each equation for x

1. $12x^2 + 10x - 5 = 7$
   $12x^2 + 10x - 12 = 0$
   $(6x - 4)(2x + 3) = 0$
   $x = 2/3,\ -1\ 1/2$

2. $45x^2 - 36x - 43 = 38$
   $45x^2 - 36x - 81 = 0$
   $(9x + 9)(5x - 9) = 0$
   $x = -1\ ,\ 1\ 4/5$

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

4. $-2x^2 - 15x - 7 = 11$
   $-2x^2 - 15x - 18 = 0$
   $-(x + 6)(2x + 3) = 0$
   $x = -6\ ,\ -1\ 1/2$

5. $-18x^2 + 63x - 31 = 14$
   $-18x^2 + 63x - 45 = 0$
   $(9x - 9)(2x - 5) = 0$
   $x = 1\ ,\ 2\ 1/2$

6. $54x^2 - 54x - 20 = 4$
   $54x^2 - 54x - 24 = 0$
   $(9x + 3)(6x - 8) = 0$
   $x = -1/3,\ 1\ 1/3$

7. $-9x^2 - 66x + 28 = -20$
   $-9x^2 - 66x + 48 = 0$
   $-(9x - 6)(x + 8) = 0$
   $x = 2/3,\ -8$

8. $-6x^2 - 40x = -14$
   $-6x^2 - 40x + 14 = 0$
   $-(x + 7)(6x - 2) = 0$
   $x = -7\ ,\ 1/3$

9. $-8x^2 + 32x - 9 = 21$
   $-8x^2 + 32x - 30 = 0$
   $-(2x - 5)(4x - 6) = 0$
   $x = 2\ 1/2,\ 1\ 1/2$

10. $24x^2 - 67x + 30 = -15$
    $24x^2 - 67x + 45 = 0$
    $(8x - 9)(3x - 5) = 0$
    $x = 1\ 1/8,\ 1\ 2/3$

11. $36x^2 - 28x - 2 = 6$
    $36x^2 - 28x - 8 = 0$
    $(4x - 4)(9x + 2) = 0$
    $x = 1\ ,\ -2/9$

12. $-42x^2 + 26x - 3 = 1$
    $-42x^2 + 26x - 4 = 0$
    $-(7x - 2)(6x - 2) = 0$
    $x = 2/7,\ 1/3$