Solving Quadratic Equations (F)

Solve each equation for x

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

2. $2x^2 - 5x + 3 = 0$

3. $x^2 - 6x - 2 = 14$

4. $4x^2 + 24x + 22 = -5$

5. $4x^2 + 36x + 29 = -52$

6. $4x^2 - 4x - 7 = 1$

7. $4x^2 - 2x - 8 = 4$

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

9. $2x^2 - 20x + 12 = -6$

10. $2x^2 - 18x + 12 = -24$

11. $x^2 - 9x + 6 = -8$

12. $x^2 - 2 = 2$

Solving Quadratic Equations (F) Answers

Solve each equation for x

1. $x^2 - x - 3 = 3$
   $x^2 - x - 6 = 0$
   $(x - 3)(x + 2) = 0$
   $x = 3 \ , \ -2$

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

3. $x^2 - 6x - 2 = 14$
   $x^2 - 6x - 16 = 0$
   $(x + 2)(x - 8) = 0$
   $x = -2 \ , \ 8$

4. $4x^2 + 24x + 22 = -5$
   $4x^2 + 24x + 27 = 0$
   $(2x + 9)(2x + 3) = 0$
   $x = -4\ 1/2, \ -1\ 1/2$

5. $4x^2 + 36x + 29 = -52$
   $4x^2 + 36x + 81 = 0$
   $(2x + 9)(2x + 9) = 0$
   $x = -4\ 1/2$

6. $4x^2 - 4x - 7 = 1$
   $4x^2 - 4x - 8 = 0$
   $(2x - 4)(2x + 2) = 0$
   $x = 2 \ , \ -1$

7. $4x^2 - 2x - 8 = 4$
   $4x^2 - 2x - 12 = 0$
   $(2x + 3)(2x - 4) = 0$
   $x = -1\ 1/2, \ 2$

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

9. $2x^2 - 20x + 12 = -6$
   $2x^2 - 20x + 18 = 0$
   $(2x - 2)(x - 9) = 0$
   $x = 1 \ , \ 9$

10. $2x^2 - 18x + 12 = -24$
    $2x^2 - 18x + 36 = 0$
    $(2x - 6)(x - 6) = 0$
    $x = 3 \ , \ 6$

11. $x^2 - 9x + 6 = -8$
    $x^2 - 9x + 14 = 0$
    $(x - 2)(x - 7) = 0$
    $x = 2 \ , \ 7$

12. $x^2 - 2 = 2$
    $x^2 - 4 = 0$
    $(x - 2)(x + 2) = 0$
    $x = 2 \ , \ -2$