Solving Quadratic Equations (E)

Solve each equation for x

1. $21x^2 + 45x - 24 = 30$

2. $36x^2 - 12x - 1 = 7$

3. $20x^2 + 7x - 48 = 1$

4. $56x^2 - 82x + 23 = -7$

5. $63x^2 - 33x - 3 = 3$

6. $28x^2 + 84x + 50 = -6$

7. $81x^2 + 18x - 14 = 1$

8. $63x^2 + 10x - 7 = 1$

9. $9x^2 + 70x + 8 = -41$

10. $2x^2 + 14x + 4 = -20$

11. $4x^2 + 18x - 20 = 16$

12. $x^2 - 3x - 10 = 30$

Solving Quadratic Equations (E) Answers

Solve each equation for x

1. $21x^2 + 45x - 24 = 30$
   $21x^2 + 45x - 54 = 0$
   $(7x - 6)(3x + 9) = 0$
   $x = 6/7, \ -3$

2. $36x^2 - 12x - 1 = 7$
   $36x^2 - 12x - 8 = 0$
   $(6x + 2)(6x - 4) = 0$
   $x = -1/3, \ 2/3$

3. $20x^2 + 7x - 48 = 1$
   $20x^2 + 7x - 49 = 0$
   $(4x + 7)(5x - 7) = 0$
   $x = -1\ 3/4, \ 1\ 2/5$

4. $56x^2 - 82x + 23 = -7$
   $56x^2 - 82x + 30 = 0$
   $(8x - 6)(7x - 5) = 0$
   $x = 3/4, \ 5/7$

5. $63x^2 - 33x - 3 = 3$
   $63x^2 - 33x - 6 = 0$
   $(7x + 1)(9x - 6) = 0$
   $x = -1/7, \ 2/3$

6. $28x^2 + 84x + 50 = -6$
   $28x^2 + 84x + 56 = 0$
   $(4x + 8)(7x + 7) = 0$
   $x = -2, \ -1$

7. $81x^2 + 18x - 14 = 1$
   $81x^2 + 18x - 15 = 0$
   $(9x + 5)(9x - 3) = 0$
   $x = -5/9, \ 1/3$

8. $63x^2 + 10x - 7 = 1$
   $63x^2 + 10x - 8 = 0$
   $(9x + 4)(7x - 2) = 0$
   $x = -4/9, \ 2/7$

9. $9x^2 + 70x + 8 = -41$
   $9x^2 + 70x + 49 = 0$
   $(x + 7)(9x + 7) = 0$
   $x = -7, \ -7/9$

10. $2x^2 + 14x + 4 = -20$
    $2x^2 + 14x + 24 = 0$
    $(2x + 8)(x + 3) = 0$
    $x = -4, \ -3$

11. $4x^2 + 18x - 20 = 16$
    $4x^2 + 18x - 36 = 0$
    $(x + 6)(4x - 6) = 0$
    $x = -6, \ 1\ 1/2$

12. $x^2 - 3x - 10 = 30$
    $x^2 - 3x - 40 = 0$
    $(x - 8)(x + 5) = 0$
    $x = 8, \ -5$