1.2 Solving Quadratics

Solve each equation by factoring.

1) \( p^2 + 3p - 4 = 0 \)  
   \( x = -4, 1 \)

3) \( 4x^2 = 15 - 17x \)  
   \( x = -5, \frac{3}{4} \)

2) \( x^2 - 4x + 3 = 0 \)  
   \( x = 3, 1 \)

4) \( 7n^2 = 2 - 13n \)  
   \( x = \frac{1}{7}, -2 \)

Solve each equation with the quadratic formula.

5) \( 2v^2 + 7v - 22 = 0 \)  
   \( x = 2, -\frac{11}{2} \)

6) \( 4n^2 + 3n - 27 = 0 \)  
   \( x = \frac{9}{4}, -3 \)

7) \( 7x^2 = 5 + 7x \)  
   \( x = \frac{7 \pm \sqrt{21}}{14} \)

8) \( 3r^2 + 2r = 7 \)  
   \( x = -\frac{1 \pm \sqrt{22}}{3} \)

Solve each equation by taking square roots.

9) \( 16p^2 + 7 = 23 \)  
   \( x = \pm 1 \)

10) \( 2n^2 + 9 = 137 \)  
    \( x = \pm 8 \)

11) \( (4x+2)^2 = 36 \)  
    \( x = 1, -2 \)

12) \( 3(x-10)^2 = 24 \)  
    \( x = 19, 1 \)