

Solving Polynomial Equations Worksheet 1

In the problems below, you are given one or two solutions to the equation leaving a quadratic. Find all remaining solutions by factoring, using the quadratic formula or by completing the square.

1. $x^3 + 3x^2 - 3x - 9 = 0$; $x = -3$

5. $3x^3 + 2x^2 - 7x + 2 = 0$; $x = 1$

2. $2x^3 + 9x^2 + 7x - 6 = 0$; $x = -2$

6. $x^4 + x^3 - 9x^2 - 3x + 18 = 0$; $x = 2, -3$

3. $x^3 - 11x + 20 = 0$; $x = -4$

7. $x^4 - x^3 - 5x^2 + 3x + 2 = 0$; $x = 1, -2$

4. $2x^3 + x^2 - 8x + 3 = 0$; $x = \frac{3}{2}$

8. $2x^4 - 11x^3 + 4x^2 + 29x + 12 = 0$; $x = -1, 3$