

3.3: Higher-Order Linear, Homogeneous Equations with Constant Coefficients Factoring Techniques

Equations of Quadratic Type Use substitution to solve the following.

- $x^4 + 14x^2 + 45 = 0$
- $(x^2 + x)^2 + 18(x^2 + x) + 72 = 0$

Factor by Grouping Solve the following.

- $x^3 - x^2 + 4x - 4 = 0$
- $2r^2 - 7r + 3 = 0$

Long Division Solve the equation $x^3 - x^2 + 4x - 4 = 0$ given that $x = 1$ is one of the solutions.