The Linear Formula

The linear formula gives the solution of $ax + b = 0$ for real numbers $a, b$ with $a \neq 0$.

The Quadratic Formula

The quadratic formula gives the solutions of $ax^2 + bx + c = 0$ for real numbers $a, b, c$ with $a \neq 0$.

The Cubic Formula

The cubic formula gives the solutions of $ax^3 + bx^2 + cx + d = 0$ for real numbers $a, b, c, d$ with $a \neq 0$.

Directions: Choose all possibilities for the three $\pm$ signs with the least two equivalent. Use real cube roots if possible, and principal roots otherwise.

The Quartic Formula

The quartic formula gives the solutions of $ax^4 + bx^3 + cx^2 + dx + e = 0$ for real numbers $a, b, c, d, e$ with $a \neq 0$.

Directions: Choose all possibilities for the three $\pm$ signs with the least two equivalent. Use real cube roots if possible, and principal roots otherwise.