

**Polynomial Equation**

A **polynomial equation** is the result of setting two polynomials equal to each other.

- The equation is in general form if one side is 0 and the polynomial on the other side is in descending powers of the variable.

**Degree of a polynomial equation**

The **degree of a polynomial equation** is the same as the highest degree of any term in the equation.

Example 1: Solve each polynomial equation by factoring and then using the zero-product principle.

**Radical Equation**

A **radical equation** is an equation in which the variable occurs in a square root, cube root, or any higher root.

**Solving Radical Equations Containing nth Roots**

1. If necessary, arrange terms so that one radical is isolated on one side of the equation.
2. Raise both sides of the equation to the nth power to eliminate the isolated nth root.
3. Solve the resulting equation. If this equation still contains radicals, repeat steps 1 and 2.
4. Check all proposed solutions in the original equation

**Extraneous solutions or extraneous roots**

An **extraneous solution or extraneous roots** is a solution found when solving an equation that does not satisfy the original equation. It may be introduced by raising both sides of an equation to a power.