

Solving Quadratic Equations by Factoring

This method is using a very important principle:

$A \times B = 0$ if and only if $A = 0$, or $B = 0$, or A and B are both equal to zero.

- Write the equation in standard form.
- Replace y with zero (= set the equation equal to zero).
- Factor by GCF, inspection, grouping, DOS, or a combination of the methods.
- Once the equation is expressed as a product of several factors (=a.k.a it is in factored form), set the individual factors equal to zero and solve the small equations individually.
- Solve (find proposed solutions), check (show LS=RS without moving terms and/or numbers from left to right to right to left), and state.

Example 1: Solve $y = x^2 - 13x - 30$

Example 2: Solve $y = 2x^2 - 72$

Example 3: Solve $2x^2 - x - 15 = y$