Solve by Completing the Square

Steps:
1. Remember *a must be = 1* to use this method.
2. *Isolate* x^2 + bx on left side of the equal sign and the constant *c* on the right side.
3. *Take ½* of the coefficient *b* of the *bx* term.
4. *Square that result* and *add* that to *both sides* of the equation.
5. *Create (factor) a perfect square… Left side will be in the form: (x – b/2)² or (x + b/2)²*
6. *Take the square root* of *both sides* to isolate the variable. *Don't forget the* ±

Find the value of c that completes the square:

$x^2 - 6x + c$	$x^2 + 12x + c$

Solve the equation by completing the square:

$x^2 - 8x + 12 = 0$	$x^2 - 6x - 14 = 0$
$x^2 - 8x + 25 = 0$	$x^2 - 2x + 3 = 0$
$x^2 - 14x = 4$	$x^2 - 10x = -49$