"Basic Factoring"

Factor Pattern
"$x^2 + bx +/- c$"

$(x-3)(x+4)$

$x^2+4x-3x-12$

x^2+x-12

sum, product

$x^2 + bx + c$

b = sum/difference c = product

Combinations:

$x^2 + bx + c$	$(x + \#)(x + \#)$	both +
$x^2 - bx + c$	$(x - \#)(x - \#)$	both –
$x^2 + bx - c$	$(x - \#)(x + \#)$	one +, one –
$x^2 - bx - c$	$(x - \#)(x + \#)$	one +, one –

Factor:

1. $x^2 + 10x + 24$ $(x+6)(x+4)$ Product 24, +6, +4, +10 Sum

2. $y^2 - 11y + 18$ $(y-9)(y-2)$ Product 18, -9, -2, -11 Sum

Factor:

3. $x^2 - 6x - 40$ $(x-10)(x+4)$ Product -40, -10, +4, -6 Sum

4. $m^2 + 5m - 6$ $(m+6)(m-1)$ Product -6, +6, -1, 5 Sum

Factor:

5. $p^2 + 4p + 45$ 45, 4

Not Factorable... yet

Factor:

6. $x^2 - 8xy + 15y^2$ $(x-3y)(x-5y)$ Product $15y^2$, -3, -5, $-8xy$ Sum

7. $j^2 + jk - 72k^2$ $(j+9k)(j-8k)$ Product -72, 9, -8, 1 Sum