# Math 024: (More) Advanced Factoring

## Perfect Squares

$$a^2 + 2ab + b^2 = (a+b)^2$$
$$a^2 - 2ab + b^2 = (a-b)^2$$

## Difference of Squares

$$a^2 - b^2 = (a-b)(a+b)$$

**1.** Find common factor, then factor the remaining trinomial.
Verify your answers by multiplying afterwards!

**(A)** $2x^2 - 8x + 6$

**(B)** $3x^2 - 18x - 21$

**(C)** $4x^2 + 20x + 16$

**(D)** $2x^2 - 2x - 12$

**(E)** $4x^2 + 12x - 40$

**(F)** $5x^2 - 55x + 50$

**2.** Factor the following trinomials using basic patterns.
Verify your answers by multiplying afterwards!

**(A)** $x^2 + 8x + 16$

**(C)** $x^2 - 16$

**(E)** $4x^2 - 12x + 9$

**(B)** $25x^2 + 40x + 16$

**(D)** $25x^2 - 16$

**(F)** $4x^2 - 9$