

8.7 Factoring Special Cases

The **BIG** Idea...

Some trinomials can be factored by reversing special case multiplication rules.

$$\begin{aligned} a^2 + 2ab + b^2 &= (a + b)^2 \\ a^2 - 2ab + b^2 &= (a - b)^2 \\ a^2 - b^2 &= (a - b)(a + b) \end{aligned}$$

Factor.

1) $x^2 + 6x + 9$

2) $x^2 + 14x + 49$

3) $x^2 - 12x + 36$

4) $9x^2 - 30x + 25$

Factor.

5) $x^2 - 144$

6) $16x^2 - 81$

Factor.

7) $x^2 + 16x + 64$

8) $4x^2 - 4x + 1$

9) $25x^2 - 9$