Unit 5 - Quadratic Functions **Name: _____**

Day 7 Notes: Factoring Special Cases **Date: _____ Hour: _____**

List first 15 **PERFECT SQUARES**.

Example 1: Factor completely. If there is an overall GCF, then factor it out first.

a. $9x^2 - 12x + 4$

b. $4p^2 + 36p + 81$

c. $7x^3 - 56x^2 + 112x$

d. The area of a square is $(16h^2 + 40h + 25)$ in^2. Find the length of each side.

Perfect Square Trinomials: $a^2 + 2ab + b^2 = (a + b)(a + b) = (a + b)^2$

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

Example 2: Factor completely. If there is an overall GCF, then factor it out first.

a. $v^2 - 100$

b. $25k^2 - 64j^2$

c. $28y^2 - 7$

d. $80x - 5x^3$

Difference of Perfect Squares: $a^2 - b^2 = (a + b)(a - b)$

Homework: **Page 493 #7 – 18 all, 31 – 36 all, and 45 – 47 all. Check for a GCF in each exercise.**