

Math 2
 Unit 2A Day 6 Notes – More Factoring
 Factor Completely.

Name: Key
 Date: _____

1)	Perfect Square: Simple Positive	$x^2 + 6x + 9 = \text{whole } \#$ $(x + 3)^2$
2)	Perfect Square: Simple Negative	$x^2 - 8x + 16 = 4$ $(x - 4)^2$
3)	Perfect Square: Complex Positive	$2: 4x^2 + 20x + 25 = 5$ $(2x + 5)^2$
4)	Perfect Square: Complex Negative	$3: 9x^2 - 24x + 16 = 4$ $(3x - 4)^2$
5)	Perfect Square: Completing	$x^2 + 18x + c$ $\left(\frac{18}{2}\right)^2$ \downarrow $(9)^2$ $c = 81$ (always positive)
6)	Perfect Square: Completing	$x^2 - 16x + c$ $\left(\frac{-16}{2}\right)^2$ \downarrow $(-8)^2$ \downarrow $c = 64$ (always positive)
7)	Perfect Square: Completing	$16x^2 - 24x + c$
8)	Complex Trinomials: Example 1	$6x^2 + 11x + 4$ reduce the fractions $\begin{array}{c} 6 \cdot 4 \\ 24 \\ 3 \quad 8 \\ 11 \end{array}$ $\begin{array}{c} 3 \\ 6 \\ \downarrow \\ \frac{1}{2} \end{array}$ $\begin{array}{c} 8 \\ 6 \\ \downarrow \\ \frac{4}{3} \end{array}$ $(x + \frac{1}{2})(x + \frac{4}{3})$ $(2x + 1)(3x + 4)$
9)	Complex Trinomials: Example 2	$12x^2 - 1x - 6$ reduce $\begin{array}{c} 12 \cdot -6 \\ -72 \\ 8 \quad -9 \\ -1 \end{array}$ $\begin{array}{c} 8 \\ 12 \\ \downarrow \\ \frac{2}{3} \end{array}$ $\begin{array}{c} -9 \\ 12 \\ \downarrow \\ -\frac{3}{4} \end{array}$ $(x + \frac{2}{3})(x - \frac{3}{4})$ $(3x + 2)(4x - 3)$
10)	Complex Trinomials: Example 3	$15x^2 + 16x + 4$ reduce $\begin{array}{c} 15 \cdot 4 \\ 60 \\ 10 \quad 6 \\ 16 \end{array}$ $\begin{array}{c} 10 \\ 15 \\ \downarrow \\ \frac{2}{3} \end{array}$ $\begin{array}{c} 6 \\ 15 \\ \downarrow \\ \frac{2}{5} \end{array}$ $(x + \frac{2}{3})(x + \frac{2}{5})$ $(3x + 2)(5x + 2)$

Unit 2A Day 6 HW

Factor Completely.

1)	$x^2 + 10x + 25$	2)	$x^2 - 14x + 49$
3)	$81x^2 + 36x + 4$	4)	$64x^2 - 48x + 9$
5)	$3x^2 + 24x + 48$	6)	$8x^3 + 16x^2 + 8x$
7)	Find c : $x^2 + 22x + c$	8)	Find c : $x^2 - 20x + c$
9)	Find c : $16x^2 + 8x + c$	10)	Find c : $25x^2 - 30x + c$
11)	$15x^2 + 26x + 8$	12)	$18x^2 + 21x - 4$
13)	$7x^2 + 31x + 12$	14)	$12x^2 + 38x + 30$
15)	$24x^2 + 7x - 6$	16)	$60x^2 - 57x - 18$