

Name: KEY

Section 5.3 – Proficiency Check – Factoring Complex Quadratics

Factor using the AC Method

$2x^2 - 5x - 12$ $x^2 - 5x - 24$ $(x - \frac{8}{2})(x + \frac{3}{2})$ $(x - 4)(2x + 3)$	$12x^2 - 17x - 5$ $x^2 - 17x - 60$ $(x - \frac{20}{12})(x + \frac{3}{12})$ $(x - \frac{5}{3})(x + \frac{1}{4})$ $(3x - 5)(4x + 1)$	$20x^2 + 9xy - 20y^2$ $x^2 + 9xy - 400y^2$ $(x + \frac{25y}{20})(x - \frac{16y}{20})$ $(x + \frac{5y}{4})(x - \frac{4y}{5})$ $(4x + 5y)(5x - 4y)$
--	--	---

400
 $\frac{20}{2} \frac{20}{5}$
 $\frac{2}{2} \frac{10}{5}$
 $25 - 16 = 9$

Factor by Grouping

$2x^2 + x - 21$ $a \cdot b = -42$ $a + b = 1$ $2x^2 + 7x - 6x - 21$ now group $(2x^2 + 7x)(-6x - 21)$ $x(2x + 7) - 3(2x + 7)$ $(x - 3)(2x + 7)$	$6x^2 - 17x + 12$ $a \cdot b = 72$ $a + b = -17$ $6x^2 - 9x - 8x + 12$ now group $(6x^2 - 9x)(-8x + 12)$ $3x(2x - 3) - 4(2x - 3)$ $(3x - 4)(2x - 3)$	$9x^2 + 24x + 16$ $a \cdot b = 144$ $a + b = 24$ $9x^2 + 12x + 12x + 16$ now group $(9x^2 + 12x)(12x + 16)$ $3x(3x + 4) + 4(3x + 4)$ $(3x + 4)(3x + 4)$ $(3x + 4)^2$
--	---	--