HW03 Last Name _____First Name _____

Factoring Polynomials // GCF

(a) $6a^2 - 18a^4 =$	$6a^2(1-3a^2)$
(b) $14x^3y^2 - 28x^2y^3 + 21x^2y^2$	**Work and answers**
(c) $24(x-2)^3 - 16(x-2)^2 + 6(x-2)$	

Factoring trinomial x^2 + bx + c

x^2 - 7x + 6 (x+m)(x+n) mn= 6 and m + n = -7	Factors Product mn = +-1 ,+-6, +-2,+-3 Sum = +-7, +-5 Answer (x-1) (x-6)
X^2 + 8X +15	**Work and answers**
X^2 - 7X +12	
X^2 + 3x - 10	
X^2 + 11X -12	
X^2 - 3X – 4	

Solve a Quadratic Equation by Factoring

X^2 +9x +20 = 0 Factor -> (x+4)(x+5) = 0	(x+4)=0 (x+5) = 0 -4 -4 -5 -5 X=-4 and x =-5 [test if true into original]
X^2+9x = -8	**Work and answers**
X^2+13X+12=0	
Y^2 – 5Y = 14	
X^2-3 = 2X	

Factoring trinomial ax^2 + bx + c

ax^2 + bx + c 2x^2+23x +11 is → (kx+m)(jx +n)	Since both signs are positive the factors need to be all positive! ☺

Factors of a =2 =k, j	**Factors of 11: m, n**	**(kx+m)(jx +n)**	**ax^2 + bx + c**
1, 2	1, 11	(x+1)(2x+11)	2x^2+13x +11
1,2 Positive factors	11, 1 Positive factors	**(x+11)(2x+1)** **Answer**	2x^2+23x +11

2x^2 +15x +7	**Work and answers**
3x^2 +5x +2	

Factor Out a Common Constant

Common factor [ax^2 + bx + c] 8x^2+28x +12 since coefficients have a common factor of 4. Factor 4 out. 4(2x^2+7x +3) → Common Factor[(kx+m)(jx +n)]	Since both signs are positive the factors need to be all positive! ☺ **CF[ax^2 + bx + c]** 4[(2x^2+7x +3)]

Factors of a =2 =k, j	**Factors of 3: m, n**	**CF[(kx+m)(jx +n)]**	**CF[ax^2 + bx + c]**
1, 2	1, 3	4[(x+1)(2x+3)]	4[2x^2+5x +3]
1,2 Positive factors	3, 1 Positive factors	4[(x+3)(2x+1)] Don't forget CF = 4 **4[(x+3)(2x+1)]**	4[2x^2+7x +3] 4[2x^2+7x +3]

4x^2 +6x+2	**Work and answers**
7x^2 - 8x +1 Hint: since the middle sign is negative and last sign is positive then your factors are negative. A negative times a negative = positive last sign A negative plus a negative = negative middle sign	