

Math 1215 HW 7 Name: **Solutions**

Multiply & Simplify:

$$1) (x - 5)(x + 4)$$

$$= x^2 + 4x - 5x - 20$$

$$= x^2 - x - 20$$

$$2) (4x - 9)(9x + 4)$$

$$= 36x^2 + 16x - 81x - 36$$

$$= 36x^2 - 65x - 36$$

$$3) (x - 2)^2$$

$$= x^2 - 4x + 4$$

$$4) (3x + 2)^2$$

$$= 9x^2 + 12x + 4$$

	$3x$	2
$3x$	$9x^2$	$6x$
2	$6x$	4

$$5) (x + 7)(x - 7) = x^2 - 49$$

Factoring using GCF:

$$6) 64x^5y^3 - 40x^4y^4 + 32x^3y^4 - 8x^2y^3$$

$$8x^2y^3 (8x^3 - 5x^2y + 4xy - 1)$$

Factor the trinomials

$$7) x^2 + 7x + 6 = (x+1)(x+6)$$

Sum = 7
Product = 6
1 and 6

$$8) b^2 - 14b + 45 = (b-9)(b-5)$$

Sum = -14
Product = 45
-9, -5

Factor using GCF and then factor the trinomial (then check):

$$9) 4b^2 + 20b + 24$$

$$= 4 (b^2 + 5b + 6)$$

$$= 4 (b+3)(b+2)$$

$$10) 9r^2 + 90r - 99$$

$$= 9 (r^2 + 10r - 11)$$

$$= 9 (r+11)(r-1)$$

Factor a trinomial with a coefficient for x^2 other than 1

$$11) 6x^2 + 5x - 4$$

$$(3x+4)(2x-1)$$

(Guess & check)

$$12) 7x^2 + 19x - 6$$

$$(7x-2)(x+3)$$

(guess & check)

Factor by using difference of squares

$$13) x^2 - 196$$

$$= (x-14)(x+14)$$

$$14) x^2 - 1$$

$$= (x-1)(x+1)$$

$$15) 121 - 4b^2$$

$$= 11^2 - (2b)^2$$

$$= (11-2b)(11+2b)$$