

Name: SOLUTIONS

Math 1260 Quiz #1 - May 17, 2006

1. Perform the indicated operations:

a.  $(3x - 2)(9x^2 + 3x + 1) = 27x^3 + 9x^2 + 3x - 18x^2 - 6x - 2$

$= 27x^3 - 9x^2 - 3x - 2$

b.  $(x - 2y)^2$

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

c.  $x(x^2 - 1) - 3x^2(x + 2) = x^3 - x - 3x^3 - 6x^2$

$= -2x^3 - 6x^2 - x$

2. Factor each polynomial as completely as possible.

a.  $32z^5 - 20z^4a - 12z^3a^2 = 4z^3(8z^2 - 5za - 3a^2)$

$= 4z^3(8z + 3a)(z - a)$

b.  $2x^2 - 5x - 3$

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

c.  $z^2 + 14zy + 49y^2$

$(z + 7y)^2$

d.  $x^4 - y^4$

$= (x^2 - y^2)(x^2 + y^2) = (x - y)(x + y)(x^2 + y^2)$