Algebra 2

Name key

ID: 1

MME Prep: Polynomials

Date _____ Period ____

Simplify each expression.

1) $(5r^3 + 3r + 8r^2) + (6r^2 + 6r + 7r^3)$

$12r^3 + 14r^2 + 9r$

2) $(7n + 6n^3 - 5) + (1 - 7n^3 - 5n)$

$(-1 + 7n^3 + 5n)$

$13n^3 + 12n - 6$

Find each product.

3) $(5p - 7)(4p^2 + 4p - 3)$

$20p^3 + 20p^2 - 15p$

$-28p^2 - 28p + 21$

$20p^3 - 8p^2 - 43p + 21$

4) $(3x^2 + 7x + 1)(5x^2 + 3x - 2)$

	$5x^2$	$3x$	-2
$3x^2$	$15x^4$	$9x^3$	$-6x^2$
$7x$	$35x^3$	$21x^2$	$-14x$
1	$5x^2$	$3x$	-2

$15x^4 + 44x^3 + 20x^2 - 11x - 2$

Find all zeros.

5) $0 = 5x^3 + 4x^2 - x$

$0 = x(5x^2 + 4x - 1)$

$0 = x(x + 1)(5x - 1)$

$x = 0$

$x + 1 = 0$

$x = -1$

$5x - 1 = 0$

$5x = 1$

$x = 1/5$

-5, $5/5$, $-1/5$, $1/1$, $-1/5$

You try! Simplify each expression.

6) $(6a - 8a^3 + 2a^4) + (5a^2 + 8a^4 - a)$

$(-5a^2 - 8a^4 + a)$

$-6A^4 - 8A^3 - 5A^2 + 7A$

7) $(1 - 3x - 7x^3) + (1 + x^3 - 8x)$

$-6x^3 - 11x + 2$

You try! Find each product.

8) $(4r^2 + 2r + 5)(3r^2 - 8r + 8)$

	$3r^2$	$-8r$	8
$4r^2$	$12r^4$	$-32r^3$	$32r^2$
$2r$	$6r^3$	$-16r^2$	$16r$
5	$15r^2$	$-40r$	40

$12r^4 - 26r^3 + 31r^2 - 24r + 40$

You try! Find all zeros.

9) $y = 2x^3 + 5x^2 - 25x$

$0 = x(2x^2 + 5x - 25)$

$0 = x(x+5)(2x-5)$

$x = 0$ $\quad x = -5$ $\quad x = 5/2$

-50

$10 \quad -5$

$\frac{10}{2} \quad \frac{-5}{2}$

$\frac{5}{1} \quad \frac{-5}{2}$