MasterMath

More on Polynomials

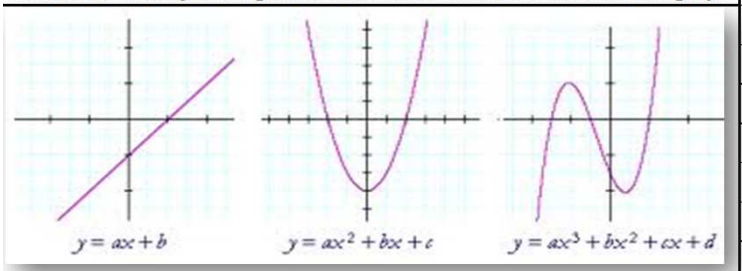
Name _____

Date _____

1.

Find the product of these binomials		
(3x + 4)	(3x + 4)	$9x^2 + 24x + 16$
(3x + 4)	(3x - 4)	$9x^2 - 16$
(3x - 4)	(3x - 4)	$9x^2 - 24x + 16$
(z - 5)	(z - 5)	$z^2 - 10z + 25$
(z - 6)	(z + 6)	$z^2 - 36$
(z + 6)	(z + 6)	$z^2 + 12z + 36$
(4a + 12)	(4a + 12)	$16a^2 + 96a + 144$
(4a - 12)	(4a + 12)	$16a^2 - 144$
(3m + 11n)	(3m + 11n)	$9m^2 + 66mn + 121n^2$
(3m - 11n)	(3m - 11n)	$9m^2 - 66mn + 121n^2$

Just for fun: compare degree of function to number of curves in its graph



2. Mental Math: convert this to a sum and difference of binomials problem, and then solve: 7 * 13

sum	difference	product
(10 - 3)	(10 + 3)	91

3. Mental Math: convert these to binomials and solve

problem	conversion	generic pattern	problem pattern	product
16^2	$(20 - 4)^2$	$a^2 - 2ab + b^2$	$20^2 - 2(20)(4) + 4^2$	256
11^2	$(10 + 1)^2$	$a^2 + 2ab + b^2$	$10^2 + 2(10)(1) + 1^2$	121
9 * 13	(11-2)(11+2)	$a^2 - b^2$	$11^2 - 2^2$	117
28*32	(30-2)(30+2)	$a^2 - b^3$	$30^2 - 2^2$	896

4. Write 2 binomials that have the product $x^2 - 36$

(x + 6)	(x - 6)

5. Solve for x:

Problem	x =	or x =
(x + 3)(x - 6) = 0	-3	6
(x + 7)(x + 5) = 0	-7	-5
(x - 3)(x - 9) = 0	3	9
(3x + 6)(5x - 15) = 0	-2	3
(x - 11)(4x - 16) = 0	11	4

6. Solve the equation by factoring:

		Problem	Factored	x =	or x =
		$4x^2 + 16x = 0$	$4x(x + 4) = 0$	0	-4
		$9x^2 - 18x = 0$	$x(9x - 18) = 0$	0	2
rewrite:	$4x^2 - 8x = 0$	$4x^2 = 8x$	$4x(x - 2) = 0$	0	2
rewrite:	$2x^2 - 8x = 0$	$2x^2 = 4x$	$2x(x - 4) = 0$	0	4
		$6x^4 - 3x^2 = 0$	$3x^2(x^2 - 1) = 0$	0	1