

Name _____

Date _____

Advanced Algebra

Unit 5: Polynomials: Assignment #5

First use the distributive property and then combine like terms

1) $2(x^3 + 3x^2 - 6x + 2) + 4(x^2 - 8x)$

$2x^3 + 6x^2 - 12x + 4 + 4x^2 - 32x$

$2x^3 + 10x^2 - 44x + 4$

2) $.5(x^4 + 3x^2 + 6) - (2x^2 + 4x)$

$\frac{1}{2}x^4 + 1.5x^2 + 3 - 2x^2 - 4x$

$\frac{1}{2}x^4 - .5x^2 - 4x + 3$

3) $\frac{1}{4}(x^5 - 3x^4 + 2x - 6) - (3x^4 + 8x - 12)$

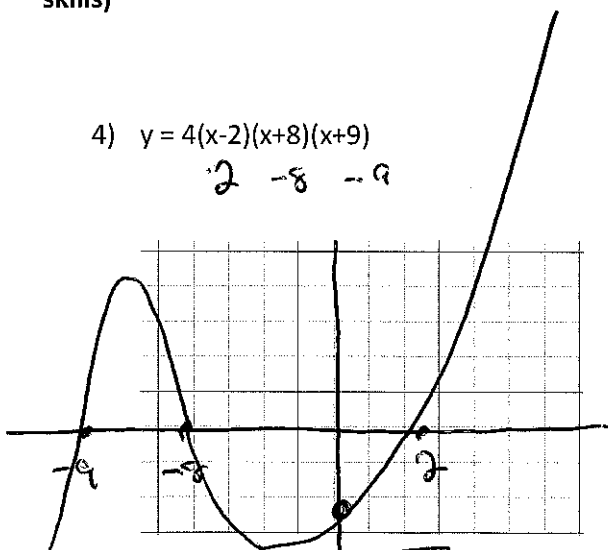
$\frac{1}{4}x^5 - \frac{3}{4}x^4 + \frac{1}{2}x - \frac{3}{2} - 3x^4 - 8x + 12$

$\frac{1}{4}x^5 - \frac{15}{4}x^4 - \frac{15}{2}x + \frac{21}{2}$

Make a sketch of each of the following and transform the following into General Form (Use your box skills)

4) $y = 4(x-2)(x+8)(x+9)$

2 -8 -9



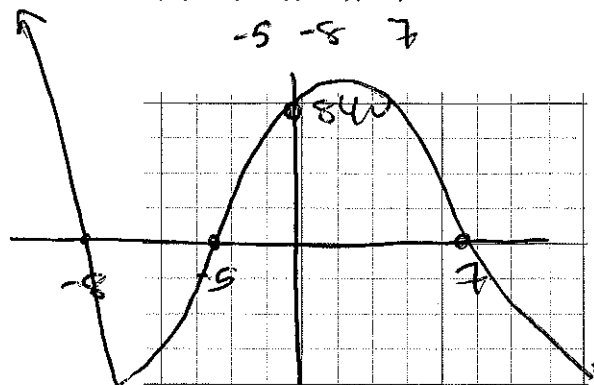
$y = 4x^3 + 60x^2 + 152x - 576$

	x^2	$+ 6x$	$- 16$
x	x^3	$6x^2$	$- 16x$
-2	$9x^2$	$54x$	$- 144$

$4(x^3 + 15x^2 + 38x - 144)$

5) $y = -3(x+5)(x+8)(x-7)$

-5 -8 7



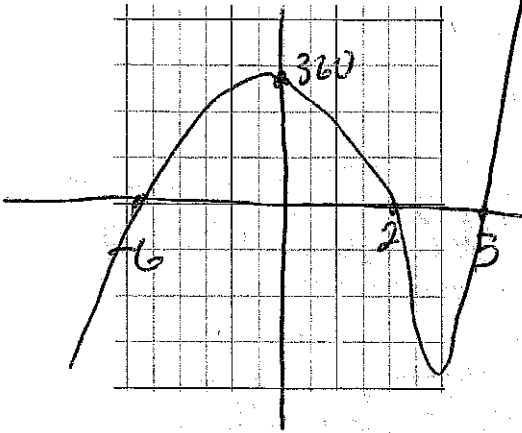
$y = -3x^3 - 158x^2 + 153x + 840$

	x^2	$+ 1x$	$- 56$
x	x^3	x^2	$- 56x$
5	$5x^2$	$5x$	$- 280$

$-3(x^3 + 6x^2 - 51x - 280)$

6) $y = 6(x-5)(x-2)(x+6)$

5 2 -6



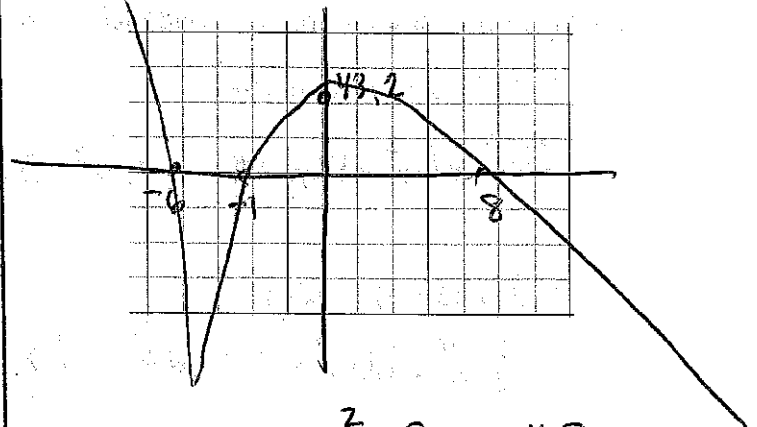
X	X ²	-7x	+10
6	6x ²	-42x	60

$6(x^3 - 7x^2 + 10x + 60)$

$y = 6x^3 - 42x^2 + 60x + 360$

7) $y = -9(x+6)(x-8)(x+1)$

-6 8 -1



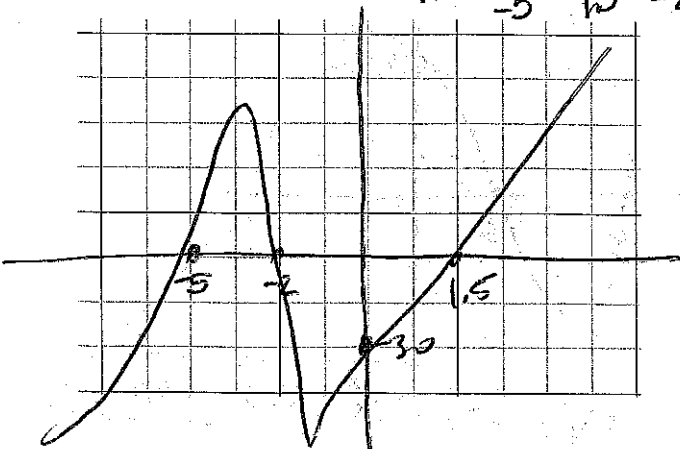
X	X ²	-2x	-48
1	x ²	-2x	-48

$-9(x^3 - 2x^2 - 50x - 48)$

$y = -9x^3 + 18x^2 + 450x + 432$

8) $y = \frac{1}{4}(4x+8)(2x-3)(x+5)$

Roots -5 1.5 -2



$y = 2x^3 + 11x^2 - 1x - 30$

X	8x ²	+4x	-24
5	40x ²	20x	-120

$\frac{1}{4}(8x^3 + 44x^2 - 4x - 120)$