Algebra RH

Essential Question: How do we add and subtract polynomials?

Do Now: (write from greatest exponent to least)

highest exponent

coefficient of the variable with the highest exponent

Polynomial	Standard Form	Classification By # of Terms	Degree	Leading Coefficient
$6x^0$	6	monomial	0	6
$-2x^1$	$-2x$	monomial	1	-2
$1 + 3x$	$3x+1$	binomial	1	3
$2x - 5 - x^2$	$-x^2+2x-5$	trinomial	2	-1
$-8x + 4x^3$	$4x^3-8x$	binomial	3	4
$2x^3 - 7x^4 - 5 + x$	$-7x^4+2x^3+x-5$	polynomial	4	-7

Adding and Subtracting Polynomials:
COMBINE like terms and remember to DISTRIBUTE the – sign when subtracting!

Find the sum/difference of the given polynomials. Represent your final answer in standard form.

1. $(2x^2 + x - 5) + (x + x^2 + 6)$

$2x^2+x-5+x+x^2+6$

$3x^2+2x+1$

2. $(5x^3 - x + 2x^2 + 7) + (3x^2 + 7 - 4x) + (4x^2 - 8)$

$5x^3-x+2x^2+7+3x^2+7-4x+4x^2-8$

$5x^3+9x^2-5x+6$

3. $(x^2 - 8) - (7x + 4x^2)$

$x^2-8-7x-4x^2$

$-3x^2-7x-8$

* 4. Subtract $(5x^2 - 2x + 1)$ from $(x^2 + 5x)$ (goes in front)

$(x^2+5x)-(5x^2-2x+1)$

$x^2+5x-5x^2+2x-1$

$-4x^2+7x-1$

5. $(-2x^3 + 5x^2 - x + 8) - (-2x^3 + 3x - 4)$

$-2x^3 + 5x^2 - x + 8 + 2x^3 - 3x + 4$

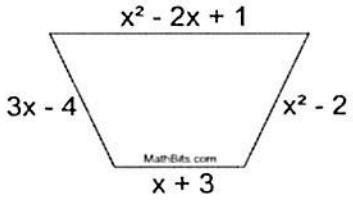
$5x^2 - 4x + 12$

6. $(3x^2 - 5x + 3) - (2x^2 - x - 4) + (4x^3 - 1) - (7x + 9)$

$3x^2 - 5x + 3 - 2x^2 + x + 4 + 4x^3 - 1 - 7x - 9$

$4x^3 + x^2 - 11x - 3$

7. Write a simplified polynomial expression that represents the perimeter of the quadrilateral.



P = sum of all sides

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

$3x - 4 + x^2 - 2x + 1 + x^2 - 2 + x + 3$

$2x^2 + 2x - 2$ units

8. Is it possible that the sum of two binomials results in a monomial? Justify your response with an example.

support your answer mathematically with a written response

$3x + 5 + 2x + 7$

$5x + 12$ X

$2x + 1 + -2x + 1$

2 ✓

9. The RMS Spotlight club is sponsoring a school dance with complimentary refreshments in order to fundraise for their upcoming show. They have made a list of expenses and revenue. Using the list, write a simplified polynomial expression in standard form that represents their profit if (x) students attend the dance.

Revenue	*Expenses*
Admission Fee - $5.00 per student	*DJ - $500*
PFA Donation - $200	*Refreshments per student - $1.50*

x : # of students

$P = R - E$

$P = (200 + 5x) - (500 + 1.5x)$

$P = 200 + 5x - 500 - 1.5x$

equation → $P = 3.5x - 300$ dollars

expression → $3.5x - 300$