Algebra 1

Name: Key

Date: _____ Block: _____

7.1 Operations with Polynomials Review

What you need to know & be able to do	Things to remember	Examples	
1. Classify polynomials	**Degree:** x^3: cubic x^2: quadratic x: linear #: constant **Number of Terms:** 1: Monomial 2: Binomial 3: Trinomial 4+: Polynomial Make sure your expressions are simplified first!	1. $5x-7$ Linear Binomial	2. -18 Constant Monomial
		3. $-2x^2+8+3x^2$ x^2+8 Quadratic Binomial	4. $4x^2+3x-10+2(x-4)$ $4x^2+3x-10+2x-8$ $4x^2+5x-18$ Quadratic Trinomial
2. Add and Subtract Polynomials	-Line up like terms -If subtracting, change subtraction sign to addition and change the signs of every term in the 2nd polynomial	5. $(4x+3x^2-7)+(-6x^2+4)$ $3x^2+4x-7$ $+\ -6x^2\quad\ +4$ $-3x^2+4x-3$	6. $(4x^2-3x-2)+(9x^2+3x+7)$ $4x^2-3x-2$ $+\ -9x^2-3x+7$ $-5x^2-6x+5$
3. Multiply polynomials	-Distributive Method or Area Method - $x \cdot x = x^2$	7. $5x(3x+7)$ $15x^2+35x$	8. $(x-9)(x+6)$ $x^2+6x-9x-54$ $x^2-3x-54$
		9. $(x+4)^2$ $(x+4)(x+4)$ $x^2+4x+4x+16$ $x^2+8x+16$	10. $(6x+3)(4x-8)$ $24x^2-48x+12x-24$ $24x^2-36x-24$
4.Area & Perimeter	Perimeter: Add up all outside sides Area: Rectangle: A = l x w Triangle: A = ½bh	11. Find the area & perimeter of the following: 3x-2 / 2x+6 / 2x + 6 / 3x - 2 $P=3x-2+3x-2+2x+6+2x+6$ $P=10x+8$ $A=(3x-2)(2x+6)$ $A=6x^2+18x-4x-12$ $A=6x^2+14x-12$	~~12.~~ The area of a rectangle is x^2+7x+6. What is the **perimeter** of this rectangle? Do not Complete!

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7.1 Learning Goal - Operations with Polynomials

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1. Simplify.

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

A. $x - 6$ B. $-x + 8$

C. $-5x - 6$ D. $2x^2 - x + 8$

2. The sum of two binomials is $5x^2 - 6x$. If one of the binomials is $3x^2 - 2x$, what is the other binomial?

A. $2x^2 - 4x$ B. $2x^2 - 8x$ C. $8x^2 + 4x$ D. $8x^2 - 8x$

3. Simplify: $(x^2 - 5x + 4) + (5x^2 + 3x + 1)$

A. $-5x^2 - 2x + 3$ B. $-4x^2 - 8x + 3$

C. $-4x^2 - 8x + 5$ D. $-5x^2 - 8x + 5$

4. Which of the following is equivalent to the expression below?

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

A. $4a^2 + 7a - 1$ B. $4a^2 + 7a + 1$

C. $-4a^2 + 7a - 1$ D. $-4a^2 + 7a + 1$

5. Which polynomial is equivalent to $(2y - 3)^2$?

A. $4y^2 + 6y - 9$ B. $4y^2 - 12y + 9$

C. $4y^2 + 9$ D. $4y^2 - 9$

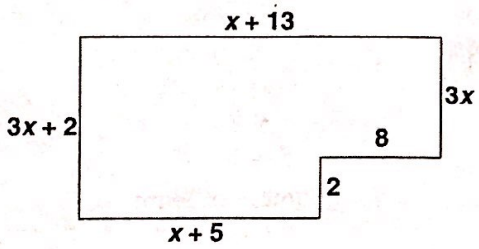
6. Which of the following is equivalent to the expression below?

$(x + 5)(2x - 3)$

A. $2x^2 + 7x - 15$ B. $2x^2 - 7x - 15$

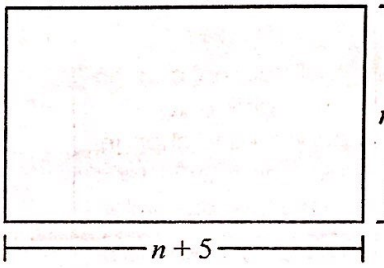
C. $3x^2 + 7x - 15$ D. $3x^2 - 7x - 15$

7. What is the perimeter of the figure shown below, which is not drawn to scale?



A. $5x + 33$ B. $5x^3 + 33$ C. $8x + 30$ D. $8x^4 + 30$

8. A rectangle and expressions representing its dimensions, in inches, are shown below.

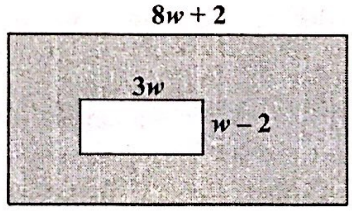


Which of the following represents the area, in square inches, of the rectangle?

A. $n^2 + 8n - 15$ B. $n^2 + 2n - 15$

C. $n^2 - 2n - 15$ D. $n^2 - 8n - 15$

9. A rectangular lot with length $8w + 2$ and width of $w + 5$ contains a swimming pool in the shape of a smaller rectangle with a length of $3w$ and width $w - 2$.



What is the expression for the shaded area around the swimming pool?

A. $5w^2 + 48w + 10$ B. $8w^2 + 42w + 10$

C. $3w^2 - 6w$ D. $5w^2 + 36w + 10$

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