Polynomial Puzzlers!

Name:_____

Algebra 4: Polynomials

Use the following area models to figure out the missing values! Once you've done that, fill in the blanks in the **FACTORED FORM** of the equation and to the right of the equals sign, write the **POLYNOMIAL FORM**.

1. $(2x + \quad)(\quad + 6) =$

	2x
	$8x^2$
6	

		-12

2. $(\quad - 3x + \quad)(3x^2 + \quad + 5) =$

	$-3x$		
$3x^2$	$3x^4$		
		$18x^2$	
5			10

3. $(\quad + 18x^2 - 12x + \quad)(-2x^3 + \quad + \quad - 1) =$

	$18x^2$	$-12x$	
$-2x^3$			$-6x^3$
	$-360x^4$		
		$-72x^2$	
-1	$6x^3$		

4. $(\quad + \quad - x^2 + \quad - 6)(x^4 - 2x^3 + \quad + 2x + \quad) =$

	$-x^2$			-6
x^4	$-2x^8$			
$-2x^3$			0	
		$-x^4$		
$2x$	$6x^4$			
				-12

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

	$-3x^4$		$-4x^2$		-6
$6x^5$			$6x^8$		
				$20x^6$	
$4x^3$		$-12x^7$			
	$-6x^7$				
$2x$	$4x^6$			$10x^2$	
					6

6. ($-2x^6+$ $+$ $+2x^3+$ $+16x-5)(-x^7+$ $+$ $+$ $+$ $+$ $+$ $+$ $)=$

	$-2x^6$			$2x^3$		$16x$	-5
$-x^7$							
		$3x^{11}$	$-3x^{10}$	$6x^9$			
					$24x^7$	$-64x^6$	
$2x^{11}$	$-4x^{10}$						
							$-5x^3$
			$-3x^6$				
					$6x^3$		
	$-12x^6$						