

Name: _____

Date: _____

Lesson 7-2: Multiplying Polynomials*"I can multiply polynomial expressions."***Warm Up: Review of the Properties of Exponents!**

<p><u>Multiplying Polynomials:</u></p> <p>Rule:</p> <ul style="list-style-type: none"> • Multiply coefficients • Multiply like variables: Keep the base and <u>add</u> the exponents. 	<p>(1) $(m)(m^8)$</p> <p>(2) $(7b^2)(b^5)$</p>
<p><u>Power Rule for Exponents:</u></p> <p>Rule:</p> <ul style="list-style-type: none"> • Raise coefficient to outside power • For variables: Keep the base and <u>multiply</u> the exponents. 	<p>(3) $(x^2)^3$</p> <p>(4) $(5x^4)^2$</p>
<p><u>Distributive Property:</u></p> <p>Rule:</p> $a(b + c) =$	<p>(5) $3(6c + 3d)$</p> <div style="border: 1px solid black; width: 150px; height: 40px; margin: 5px auto;"></div> <p>(6) $-5m(4m - 6n)$</p>

Let's try it...**Directions:** Simplify the following polynomials. **Answers must be in standard form.**

1. $a(4a + 3)$

2. $-c(11c + 4)$

3. $x(2x - 5)$

Distribute, then simplify the remaining expression. All answers must be written in standard form.

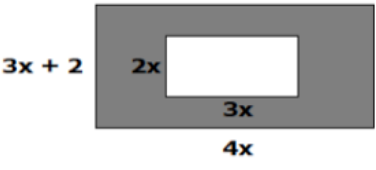
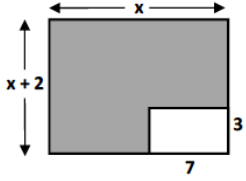
10. $w(3w + 2) + 5w$

11. $z(5z - 3) - 2z$

12. $y^2(-4y + 5) - 6y^2$

Let's Practice: Simplify the following polynomials. Answers must be written in standard form.

Mild	1) $a(4a + 3)$	2) $-c(11c + 4)$	3) $x(2x - 5)$
	4) $2y(y - 4)$	5) $-3n(n^2 + 2n)$	6) $4h(3h - 5)$
Medium	7) $3x(5x^2 - x + 4)$	8) $7c(c^3 - 2c^2 + 5)$	9) $-3n^2(-2n^2 + 2n + 4)$
	10) $2x(3x^2 + 4) - 3x^2$	11) $4a(5a^2 - 4) + 9a$	12) $-2(4x^2 + 5x) + x(x^2 + 6x)$


Spicy	13) Find the area of the shaded region. ***Hint: Larger Area - Smaller Area	14) Write an expression to represent the area of the shaded region.
		

Answers Scrambled:

$7c^4 - 14c^3 + 35c$	$15x^3 - 3x^2 + 12x$	$6m^2 + 6m - 3$	$6x^3 - 3x^2 + 8x$	$6n^4 - 6n^3 - 12n^2$
$2x^2 - 5x$	$18b^2 + 2b + 8$	$5z^2 - 5z$	$-11c^2 - 4c$	$x^2 + 2x - 21$
$12n^3 + 5n^2 - 19n$	$4a^2 + 3a$	$20a^3 - 7a$	$6x^2 + 8x$	$x^3 - 2x^2 - 10x$
$-3n^3 - 6n^2$	$-4y^3 - y^2$	$12h^2 - 20h$	$3w^2 + 7w$	$2y^2 - 8$

Multiplying Polynomials Practice!

Directions: Simplify each expression. Use your answer to navigate through the maze. Show your work.

START $2x^2(5x+7)$	$8x(5x-4)$	$5x(7x^2-8x+3)$	$4(-9x+11)$
$10x^3+7$	$40x-32$	$35x^2-40x+15$	
$10x^3+14x^2$	$40x^2-32x$	$50x+10$	$-36x+44$
$3(6x^2+4x+5)$	$-8x^2(6x^2-3x-5)$	$-10(-5x-1)$	$-6x(6x^2-x-2)$
$18x^2+4x+5$	$-48x^4-3x-5$	$50x-1$	
$18x^2+12x+5$	$-48x^4+24x^2+40$	$50x-10$	$-36x^3-6x^2-12x$
$3x^2(5x^3+2x)$	$6x^4(5x^2-7x-8)$	$-2x^3(12x+8)$	$-3x(8x^2-3x+5)$
$15x^5+2x$	$30x^6-7x-8$	$-24x^4-16x^3$	
$15x^6+6x^2$	$24x^2+6x$	$-24x^3+8$	$-24x^3+9x^2-15x$
$7x^2(4x^2-11x-6)$	$3x(8x+2)$	$4(x^2-4x-1)$	Good Job!!!
$28x^4-77x^3-42x^2$	$24x^2+2$	$4x^2-16x-4$	
			The End