

## ! DAILY QUEST:

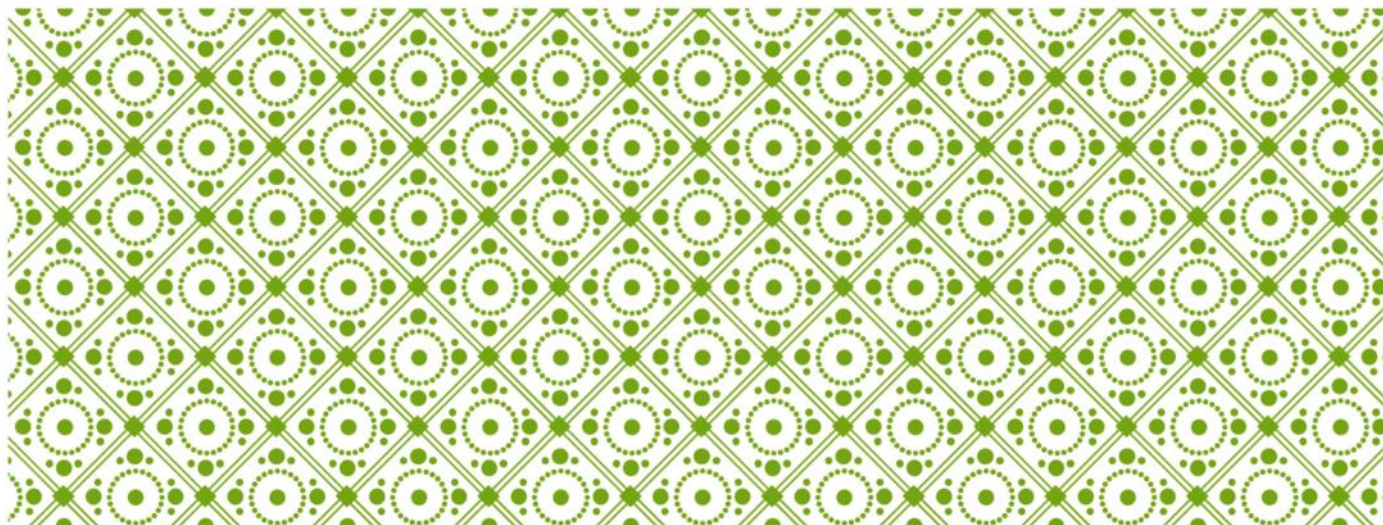
Multiply/distribute the following polynomials.

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

$$-6x^6 - 4x^5 + 10x^2$$

$$2) (5x^2y^3)(-3x^5y^7)$$

$$-15x^7y^{10}$$



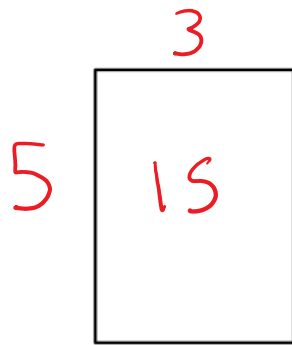
## LESSON 14.4 MULTIPLYING POLYNOMIALS

Goal: To identify, evaluate and use operations with expressions/polynomials.

Obj: SWBAT multiply polynomials.

### PROBLEM 1:

The length of the rectangle is 5 inches and the width is 3 inches. What is the area of the rectangle?



**PROBLEM 1A:**

Multiply.

$$\underline{-4x^2}(\underline{6x^5}) = -24x^7$$

*monomial*  
*monomial*

$$\begin{array}{|l} -4x^2 \\ \hline -24x^7 \end{array}$$

**PROBLEM 1B:**

Multiply.

$$\underline{5x}(3x^2 - 8) = 15x^3 - 40x$$

monomial

binomial

5x

$3x^2$	$-8$
$15x^3$	$-40x$

$$5x(3x^2 - 8)$$

$$15x^3 - 40x$$

**PROBLEM 2:**

Multiply.

$$\underline{(x + 3)}(\underline{x + 4})$$

	<u>x</u>	<u>4</u>
x	$x^2$	$4x$
3	$3x$	$12$

$$x^2 + 7x + 12$$

$$\underline{(x - 2)}(\underline{x + 7})$$

	<u>x</u>	<u>7</u>
x	$x^2$	$7x$
-2	$-2x$	$-14$

$$x^2 + 5x - 14$$

**PROBLEM 2A:**

Multiply.

$$(x + 5)(x - 6)$$

	$x$	$-6$
$x$	$x^2$	$-6x$
$5$	$5x$	$-30$

$$x^2 - 1x - 30$$

$$(x - 3)(x - 8)$$

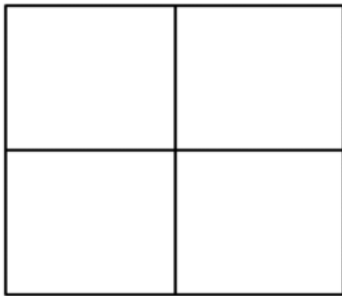
	$x$	$-8$
$x$	$x^2$	$-8x$
$-3$	$-3x$	$24$

$$x^2 - 11x + 24$$

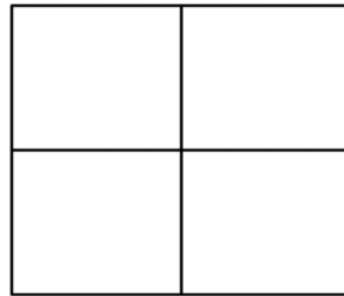
**PROBLEM 2B:**

Multiply.

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



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

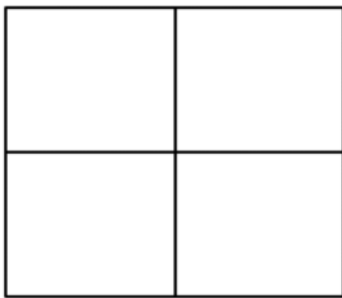




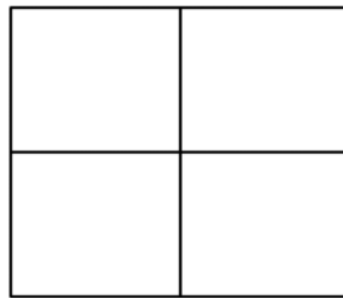
**PROBLEM 2C:**

Multiply.

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



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



### PROBLEM 3:

Multiply.

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

$$x^3 + 1x^2 - 14x + 6$$

x  
- 3

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

**PROBLEM 3A:**

Multiply.

$$(x + 3)(2x^2 - 5x + 7)$$

$2x^2 \quad -5x \quad 7$

$2x^3$	$-5x^2$	$7x$
$6x^2$	$-15x$	$21$

 $\times$  $3$ 

$$2x^3 + 1x^2 - 8x + 21$$

**PROBLEM 3B:**

Multiply.

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


**PROBLEM 3C:**

Multiply.

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