

ALGEBRA II
Chapter 5 section 3
Add, Subtract, Multiply Polynomials
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FOCUS:

What are the special product patterns?

WARM – UP:

Simplify the expression.

1. $(-3x^3)(5x)$ _____

2. $9x - 18x$ _____

3. $10y^2 + 7y - 8y^2 - 1$ _____

4. $4(-5a + 6) - 2(a - 8)$ _____

5. Each side of a square is $(2x + 5)$ inches long. Write an expression for the perimeter of the square.

NOTES:

Add the expression in the format given.

VERTICAL

$4x^3 + 4x^2 - 3x + 10$ and $-5x^3 - 2x^2 - 4x - 4$

HORIZONTAL

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

Subtract the expression in the format given.

VERTICAL

$-4x^3 + 6x^2 + 9x - 3$ from $3x^3 + 4x^2 + 7x + 12$

HORIZONTAL

$6y^2 - 6y - 13$ from $3y^2 - 4y + 7$

Multiply the expression in the format given.

VERTICAL

$3x^2 + 3x + 5$ and $2x + 3$

HORIZONTAL

$x^2 - 2x + 3$ and $x - 5$

Multiply $x - 1$, $x - 1$, and $x + 2$ in, first, a horizontal format and then a vertical format.

SPECIAL PRODUCT PATTERNS	
Sum and Difference:	$(a + b)(a - b) = a^2 - b^2$
Square of a binomial:	$(a + b)^2 = a^2 + 2ab + b^2$
	$(a - b)^2 = a^2 - 2ab + b^2$
Cube of a binomial:	$(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$
	$(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$

Find the product of the binomials.

$$(5y - 3)(5y + 3)$$

$$(4a + 7)^2$$

$$(mn - 6)^3$$

$$(xy + 4)^3$$

New highway markers are placed every $(6x - 6)$ feet along a stretch of highway. The total number of markers is represented by $x^2 - 3x + 1$. Write a model for the distance along the highway where the markers are placed. If the markers are placed every 528 feet, what length of highway received new markers?

Let's see if you comprehended what we worked on in class...

Try _____ for homework