

FOIL vs FLOM

Most Algebra teachers teach the “FOIL” rule as a method of multiplying two binomials. (a binomial is a two-term algebraic expression like $2x + 5$.)

FOIL is an acronym for “First, Outside, Inside, Last.”

Example:

$$\begin{array}{l} \overbrace{(2x+5)(x+3)} \longrightarrow \\ \overbrace{(2x+5)(x+3)} \longrightarrow \\ (2x+5)\overbrace{(x+3)} \longrightarrow \\ \overbrace{(2x+5)(x+3)} \longrightarrow \end{array}$$

The “First” term in each binomial is the $2x$ and x .
This gives us $2x^2$.
The “Outside” terms are the $2x$ and the 3 .
We get $6x$.
The “Inside” terms are the 5 and the x .
These produce $5x$.
And the “Last” terms are the constants 5 and 3 .
They make 15 .

When we simplify $2x^2 + 6x + 5x + 15$, we can add the $6x$ to the $5x$, so our answer is:

$$2x^2 + 11x + 15$$

Some teachers especially those who work with young students, use the FLOM method. This method is rarely found in textbooks because it does not spell an actual word, like “foil.” Also, it sounds like someone clearing his throat.

FLOM stands for “First, Last, Outside, Middle.”

This method is usually accompanied with specific connectors indicating what is being multiplied such as in the following example: $(3x+2)(2x+1)$

$$6x^2 + 7x + 2$$

The “First” and “Last” are the same as above, and the connectors look like staples. We get $6x^2$ and 2 as our products.
The “Outside” terms are the $3x$ and the 1 . The “Middle” terms are the 2 and $2x$. From these we get $3x$ and $4x$. The connectors are semicircles. The semicircles match up, allowing the like terms to align.

If you squint at the figure and use your imagination, you can understand that FLOM also stands for “Funny Little Old Man.” If you combine the two methods and use “First, Last, Outside, Inside and Done!” then you even know his name – FLOID.