

**Strand:** Numbers and Operations

**Name:** \_\_\_\_\_

**Skill Addressed:** Understanding Multiplication

**Blk:** \_\_\_\_

**Activity:** *Movin' On to Algebra – The Meaning of FOIL*

Now, if the large blue squares are ( $x$  by  $x$ ), the yellow rods are ( $x$  by 1) and the little green squares are (1 by 1), explain how this diagram shows the multiplication of:

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

Use FOIL to multiply these numbers: (Firsts, Outsides, Insides, Lasts)

$$= \underline{2x^2} + \underline{5x} + \underline{6x} + \underline{15}$$

Can you find these four products on the diagram to the right?

Explain why this happens:

*The entire width of the diagram is  $x + 3$ , and the height is  $2x + 5$ , so when you FOIL, you have to combine each term in one binomials with each term in the other binomial.*

How is this question like the one on the previous page? Why are the diagrams the same? *In the previous example, the value of  $x$  was 10, in this example  $x$  can represent any number (it is a variable).*

