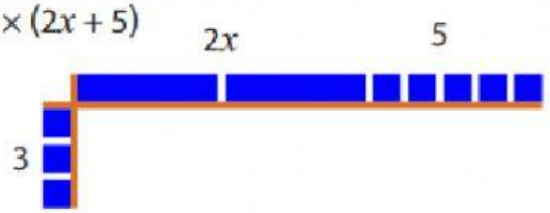
1. Multiplying a binomial by a constant

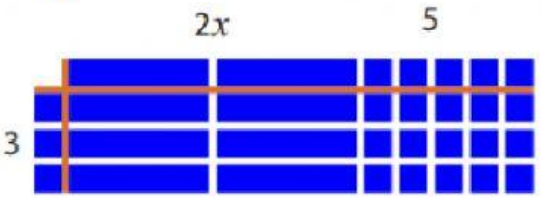
Determine the product of $3 \times (2x + 5)$

Solution

Step 1: Arrange tiles that represent $3 \times (2x + 5)$ as shown



Step 2: Fill tiles to form a rectangle with sides as 3 units and $(2x + 5)$ units.



Step 3: $3 \times (2x + 5)$ = the area of the rectangle formed.
= the number of tiles that form the rectangle.

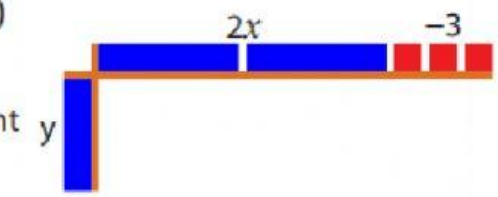
$3 \times (2x + 5) = 6x + 15$

2. Multiplying a binomial by a monomial

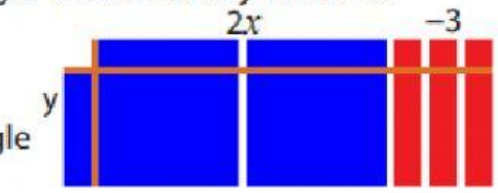
Determine the product of $y(2x - 3)$

Solution

Step 1: Arrange tiles that represent $y(2x - 3)$ as shown



Step 2: Fill tiles to form a rectangle with sides as y units and $(2x - 3)$ units.



Step 3: $y(2x - 3)$
= the area of the rectangle formed.
= the number of tiles that form the rectangle.

So, $y(2x - 3) = 2xy - 3y$

LIVEWORKSHEETS

3. Multiplying a binomial by a binomial

Determine the product of $(2x - 3)(4x + 3)$

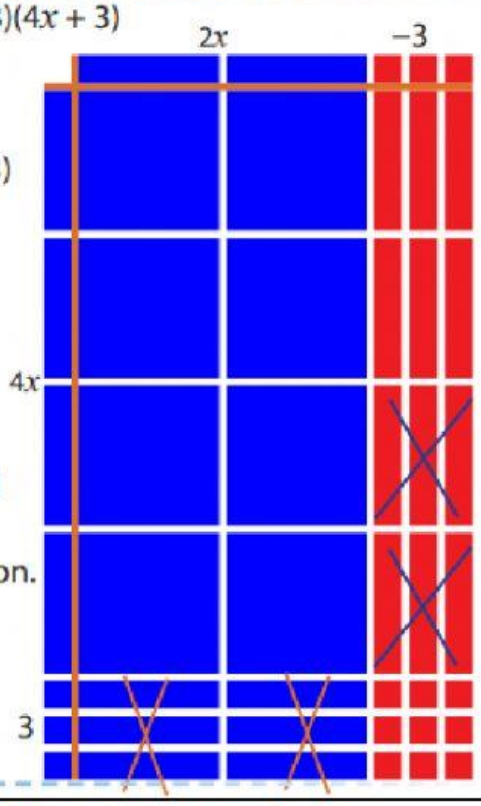
Solution

Step 1: Arrange tiles that represent $(2x - 3)(4x + 3)$

Step 2: Fill tiles to form a rectangle with sides as $(4x + 3)$ units and $(2x - 3)$ units.

Step 3: Remove zero pairs and count the remaining terms to get the solution.

So,
$(2x - 3)(4 + 3) = 8x^2 - 6x - 9$



4. Multiplying a binomial by a monomial

$(x)(a+b) = ax + bx$

5. Multiplying a binomial by a binomial

$(ax + b) \times (cx + d) = acx^2 + adx + bcx + bd$

$(ax + b) \times (cx + d) = acx^2 + (ad + bc)x + bd$

LIVEWORKSHEETS