

Alge-Tiles

**For all Alge-Tile work it is
essential to remember that
means minus **RED****

**And
Any other colour means plus.**

Variables

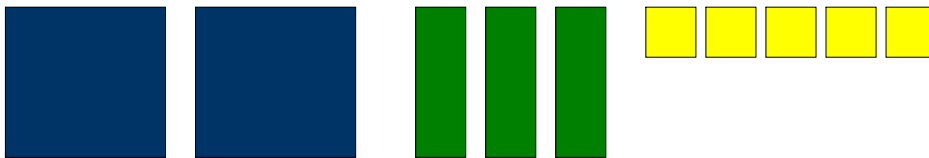


Example

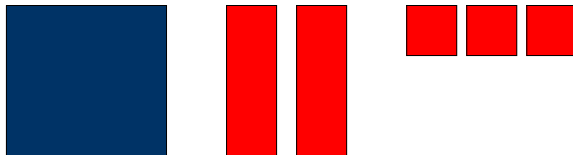
Read only!

Represent the following trinomials using alge-tiles:

1. $2x^2+3x+5$



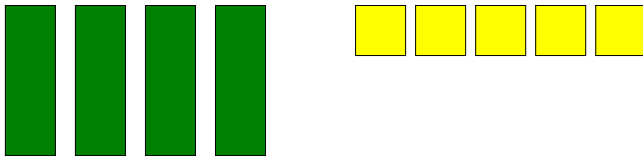
2. x^2-2x-3



Section 1. Like Terms

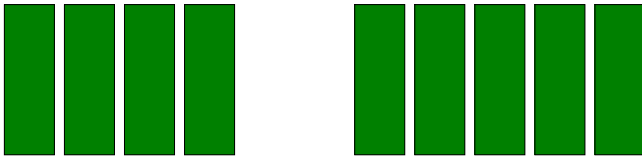
Read only!

Example 1. $4x+5$



Can any of these be added ? Explain your answer

Example 2. $4x+5x$



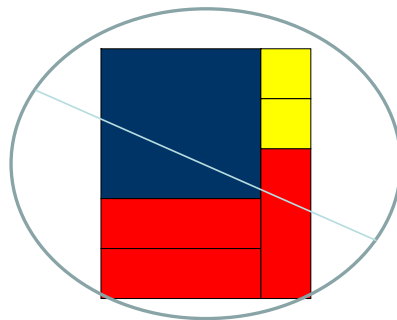
Can any of these be added ? Explain your answer

Multiplying

When multiplying the tiles are used to represent **dimensions** of a rectangle in order to determine the **area**. You must create a rectangle and have no pieces left over. Tiles must be placed next to tiles of matching lengths.



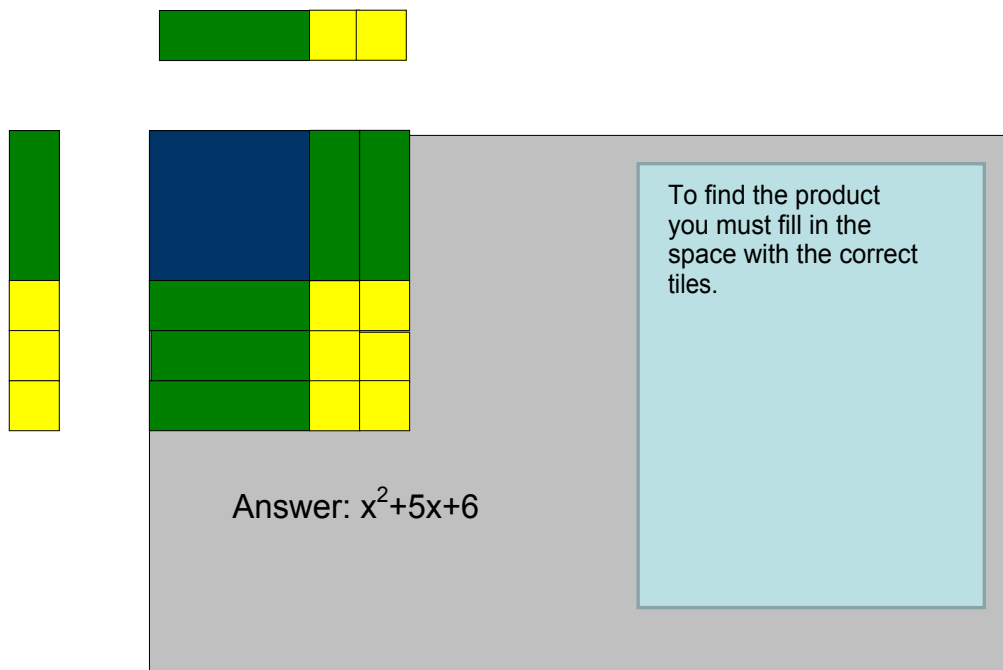
Correct rectangle with proper
Use of tiles



Incorrect rectangle as yellow and blue
are not equal lengths.

Section 4. Multiplying in algebra

Example 1. Multiply $(x+2)(x+3)$



The diagram illustrates the multiplication of $(x+2)(x+3)$ using algebra tiles. A vertical stack of tiles on the left represents the first binomial: one green tile (representing x) and two yellow tiles (representing 2). A horizontal row of tiles at the top represents the second binomial: one green tile (representing x) and two yellow tiles (representing 3). These tiles are placed on a grid to form a rectangle. The top-left corner is a large blue square tile representing x^2 . The top-right corner consists of two green tiles representing $2x$. The bottom-left corner consists of three green tiles representing $3x$. The bottom-right corner consists of six yellow tiles representing 6 . The total area is represented by the sum of these tiles: $x^2 + 2x + 3x + 6 = x^2 + 5x + 6$.

To find the product you must fill in the space with the correct tiles.

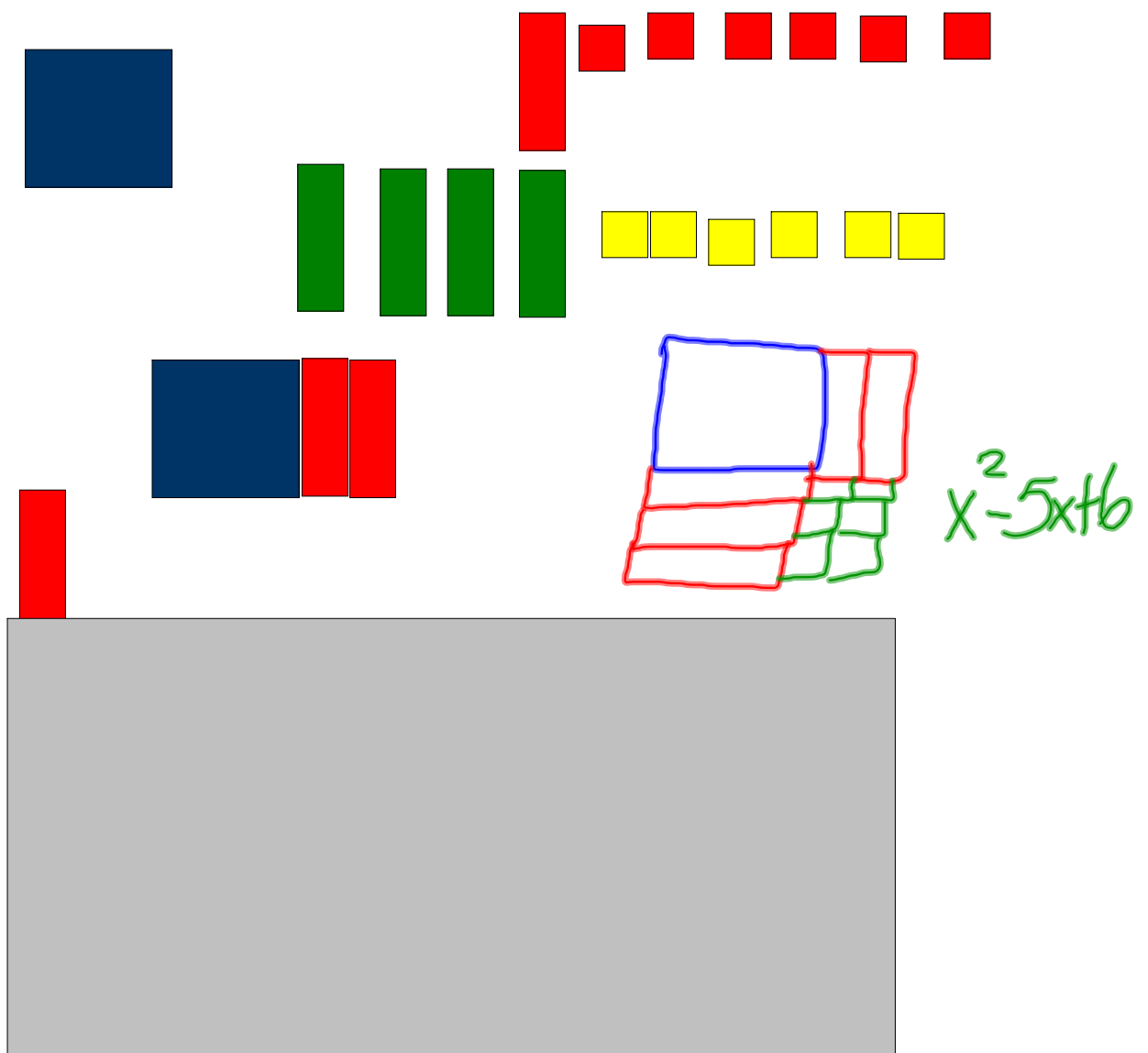
Answer: $x^2 + 5x + 6$

Section 4. Multiplying in algebra

Example 2. Multiply $(x+1)(x-3)$

The diagram illustrates the multiplication of $(x+1)(x-3)$ using algebra tiles. It features a large gray rectangular area representing the product. To the left of this area is a vertical stack of four tiles: one green tile on top and three red tiles below it. Above the gray area is a horizontal row of two tiles: one green tile on the left and one yellow tile on the right. The gray area is divided into a 2x2 grid of smaller tiles. The top-left tile is dark blue, the top-right tile is green, the bottom-left tile is red, and the bottom-right tile is red. A green 'x' is placed in the center of the dark blue tile, and a green 'x' is placed in the center of the green tile. A green 'x' is also placed in the center of the red tile in the bottom-left position. To the right of the gray area, the text "Think....." is displayed. Below the gray area, the text "Answer: $x^2 - 2x - 3$ " is displayed. A large light blue rectangle is positioned below the answer text.

Practice $(x - 2)(x - 3)$



Practice

Multiply the following:

1. $(x+4)(x+3)$

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

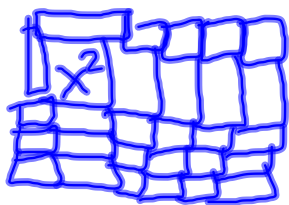
3. $(x-4)(x-2)$

4. $(x-1)(x-3)$

5. $(x-1)(x-1)$

6. $(x-2)^2$

$$1. (x+4)(x+3)$$



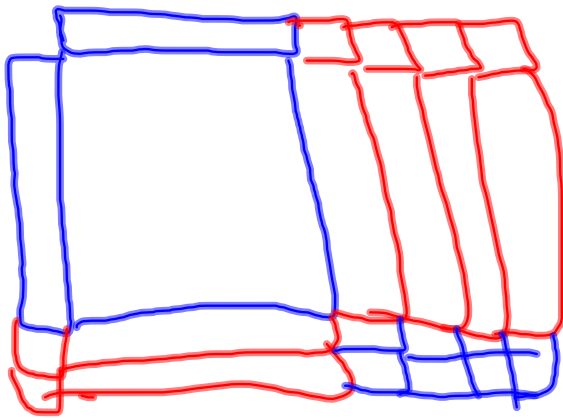
$$x^2 + 7x + 12$$

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

$$x^2 + x - 2$$

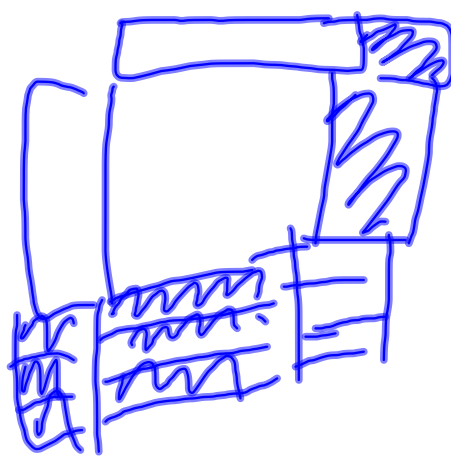


$$3)(x-4)(x-2)$$



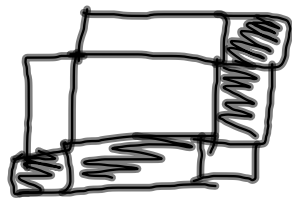
$$x^2 - 8x + 8$$

$$(x-1)(x-3)$$



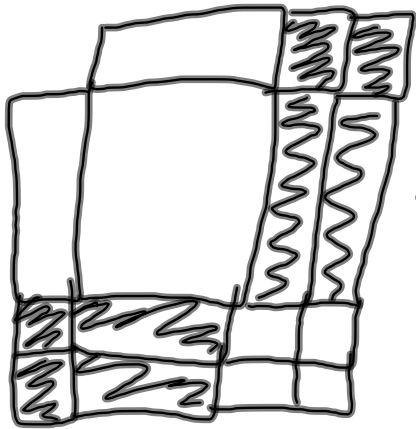
$$x^2 - 4x + 3$$

$$(x-1)(x-1)$$



$$x^2 - 2x + 1$$

$$(x-2)^2$$



$$x^2 - 4x + 4$$