

We are transitioning to the new UMathXI

The “U” in UMathX and UMathXI ... is ... “UNDERSTANDING”



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## webinar/workshop

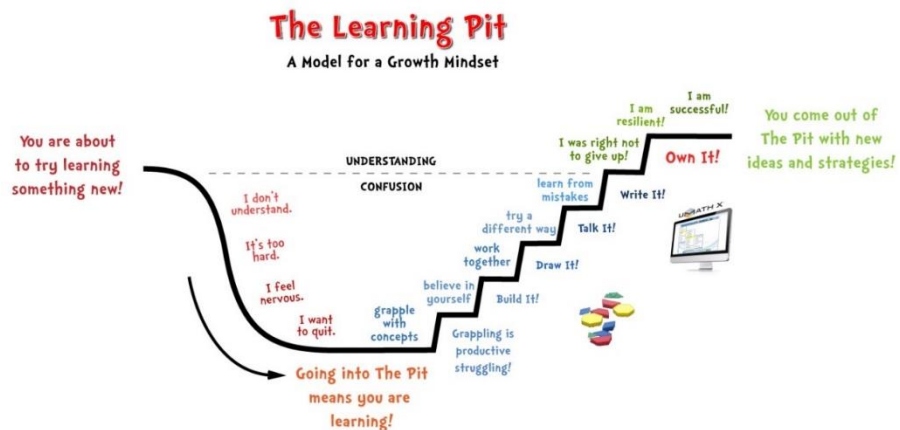
following UMathX Learning Resources are available as we transition to new UMathXI:

- [Support Sheets](#) (with solutions)
- [Frameworks](#) – model lessons (with answers)
- [Interactive Videos](#) at [www.umathx.com](http://www.umathx.com) in 6,7
- [Previous versions of UMathX](#) for K to 10
  1. Click to download: [Understanding Numeration](#) ... gr k to 3  
Serial Number: **3-B18652928-465**
  2. Click to download: [Understanding Math](#) ... gr 4 to 10  
Serial Number: **5-B17611264-681**

**Instructions Before the Workshop/Webinar**  
**Notify us** at [info@umathx.com](mailto:info@umathx.com) if you would like a webinar.

## Setting up .. “The Learning Environment

**1.** **UMathX** What is it? **Play video** at .. [www.umathX.com](http://www.umathX.com)



**2.** **UMathXI** Access: URL... Username... Password...

# Framework for Learning:

# Factoring Trinomials

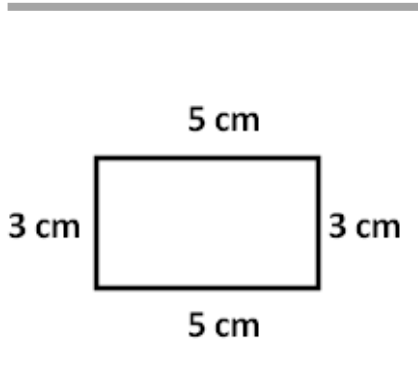
Leader's Name: .....

Co-Leader's Name: .....

Instructor's Initials: .....

## Getting Started:

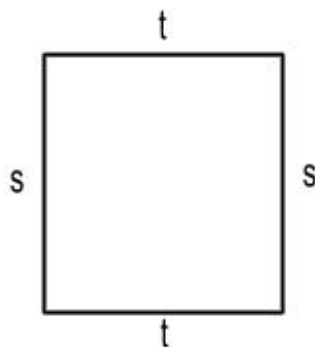
Find the following for each shape: a) length; b) width; and c) area.



Length = \_\_\_\_\_

Width = \_\_\_\_\_

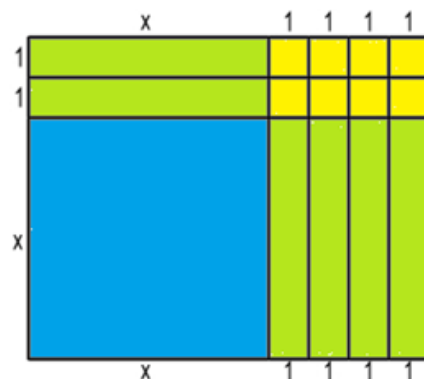
Area = \_\_\_\_\_



Length = \_\_\_\_\_

Width = \_\_\_\_\_

Area = \_\_\_\_\_



Length = \_\_\_\_\_

Width = \_\_\_\_\_

Area = \_\_\_\_\_

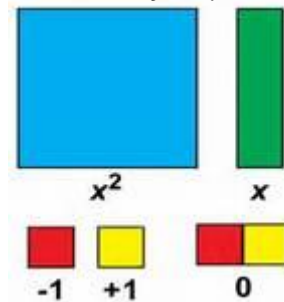
Compare answers with a partner. Discuss and correct any mistakes.

In **UMATH X** follow the **Content Menu** path: (If UMathXI has been released to you.)

**Algebra > Factoring Expressions > Factoring Trinomials > With Tiles**

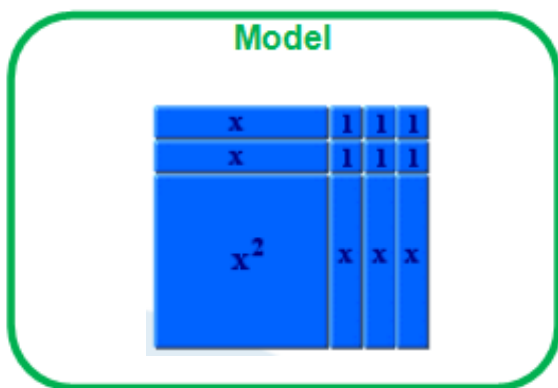
As you work through **Example 1** and **Example 2**:

- 1) **Build** a rectangular model of the trinomials with algebra tiles.
- 2) **Draw** a picture of your model complete with labels for each tile.
- 3) **Label** the dimensions (i.e., the length and width) on each model.



### Example 1

$$x^2 + 5x + 6$$



**Dimensions**

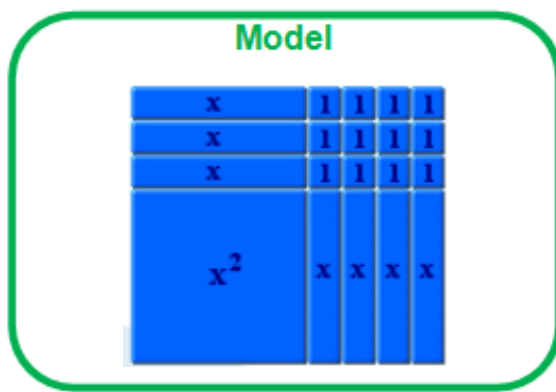
Length: \_\_\_\_\_

Width: \_\_\_\_\_

Area = Length × Width

= ( \_\_\_\_\_ ) × ( \_\_\_\_\_ )

**Example 2**  $x^2 + 7x + 12$



**Dimensions**

Length: \_\_\_\_\_

Width: \_\_\_\_\_

Area = Length  $\times$  Width  
= ( \_\_\_\_\_ )  $\times$  ( \_\_\_\_\_ )

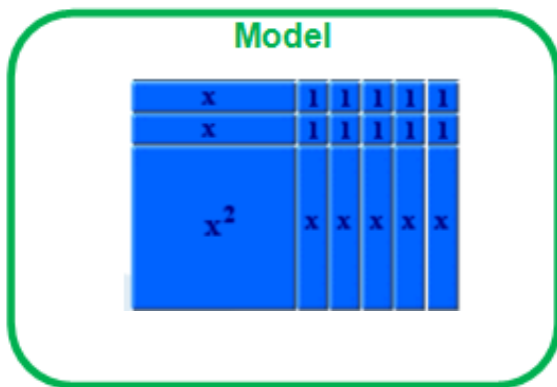
**Reflect & Connect:**

**Build** a rectangular model of  $x^2 + 7x + 10$  with algebra tiles.

**Draw** a picture of your model complete with labels below.

**List** the dimensions (i.e., length and width) of the model.

**Complete** the corresponding multiplication sentence to calculate the area of the model.



**Dimensions**

Length: \_\_\_\_\_

Width: \_\_\_\_\_

Area = Length  $\times$  Width  
= ( \_\_\_\_\_ )  $\times$  ( \_\_\_\_\_ )

In **UMathX**, (if it has been released to you) follow the **Content Menu** path:

**Algebra > Factoring Expressions > Factoring Trinomials > The Pattern**

**Compare** your answer above with the last example in the chart.

**Correct** any mistake.

**Write** a short paragraph on a separate sheet of paper explaining the relationship between a trinomial and the dimensions of the corresponding rectangular model of the trinomial.

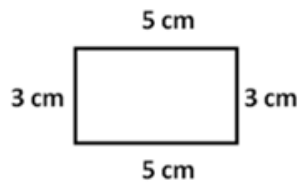


**Explain** how the relationship may be used to factor a trinomial.

**Justify** your answer with a novel example complete with a rectangular model.

# Answer Key

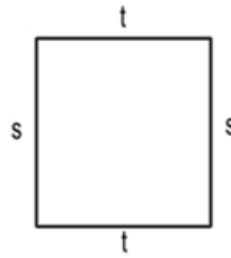
## Getting Started



Length = 5 cm

Width = 3 cm

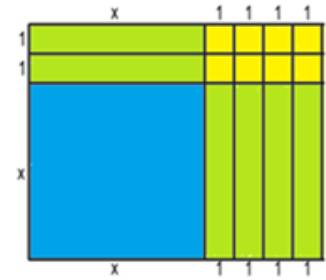
Area = 15 cm<sup>2</sup>



Length = t

Width = s

Area = st



Length =  $x + 4$

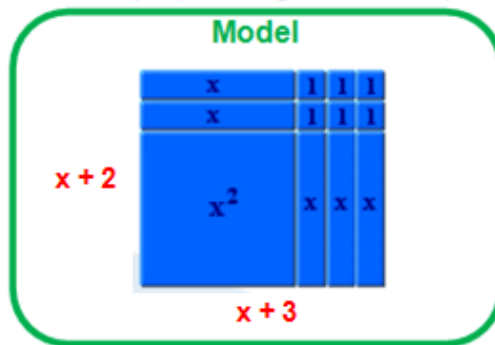
Width =  $x + 2$

Area =  $x^2 + 6x + 8$

## Working In It

### Example 1

$x^2 + 5x + 6$



#### Dimensions

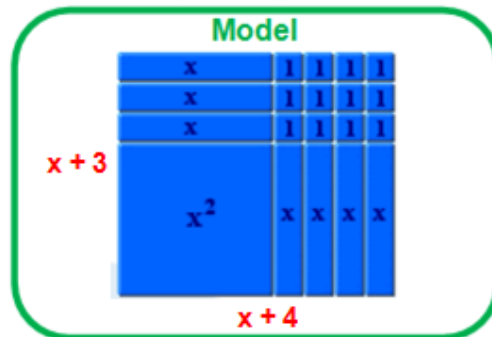
Length:  $x + 3$

Width:  $x + 2$

Area = Length  $\times$  Width  
 = ( $x + 3$ )  $\times$  ( $x + 2$ )

### Example 2

$x^2 + 7x + 12$



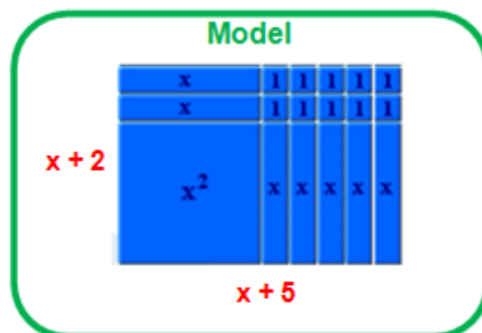
#### Dimensions

Length:  $x + 4$

Width:  $x + 3$

Area = Length  $\times$  Width  
 = ( $x + 4$ )  $\times$  ( $x + 3$ )

## Reflect & Connect



#### Dimensions

Length:  $x + 5$

Width:  $x + 2$

Area = Length  $\times$  Width  
 = ( $x + 5$ )  $\times$  ( $x + 2$ )