# Area – “FOILed” Again!

*Area_FOILed_Again.tns*

Name _____

Class _____

**Problem 1 – Introduction to area of a rectangle**

View the rectangle on page 1.3.

**1.** What are the lengths of the sides of the rectangle?

**2.** What is the area of the rectangle when $a = 6$?

Now, change the length of the side by clicking on the arrows next to **a:= 6**.

**3.** What is the area of the rectangle when $a = 4$? When $a = 11$?

**4.** How is the expression for the area simplified?

**Problem 2 – Areas of small rectangles**

On page 2.1, you see a rectangle of dimensions $(x + 7)$ and $(x + 2)$. Each piece of the rectangle is a different color so that you can focus on its area.

**5.** What is the area of each small rectangle?

**6.** What is the total area of the rectangle?

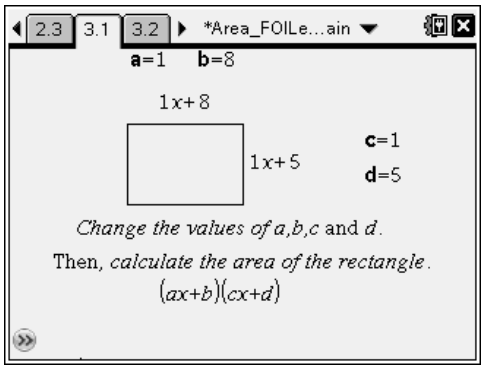
**Problem 3 – FOIL method**

The rectangle on pages 3.1 and 3.2 has the same dimensions as the rectangle from Problem 2. The FOIL method is shown on page 3.2.

**7.** How do the areas of the small rectangles in Problem 2 relate to the expression shown on page 3.2?

You can change the dimensions of the rectangle on page 3.1 by double-clicking on **a**, **b**, **c**, or **d**. Practice finding the area of the rectangle and then check your answers on page 3.2.

**8.** What is the area of a rectangle with dimensions $(3x + 5)$ and $(6x + 2)$?



**9.** **a.** $(4x + 1)(3x + 9) =$ **b.** $(x + 8)(7x + 3) =$ **c.** $(2x + (-3))(5x + 8) =$

**Homework/Extensions**

On page 4.2, there is another opportunity for you to practice finding area. Record your answer to the first problem here. Show each step of your work. Advance to page 4.3 to check your answer.

**1.** **a.** $(4x + 2)(x + 7) =$

**b.** $(3x - 7)(2x + 4) =$

**c.** $(2x + 5)(6x + 1) =$

**d.** $(5x + 3)(9x - 2) =$

On pages 5.1 and 5.2, you will be multiplying a trinomial (3 terms) times a binomial (2 terms) to find the area of a rectangle.

**2.** What method can you use to find the simplified expression for the area?

**3.** Use the letters **a**, **b**, **c**, **d**, and **e** to determine the formula used to find the 6 terms of area shown on page 5.2.

**4.** What is the area of the rectangle with dimensions $(1x^2 + 3x + 4)$ and $(5x + 6)$?

**5.** **a.** $(2x^2 + 1x + 7)(3x + (-6)) =$

**b.** $(4x^2 + 3x + 8)(x + 3) =$

**c.** $(2x^2 + 6x + 4)(-3x + 9) =$