

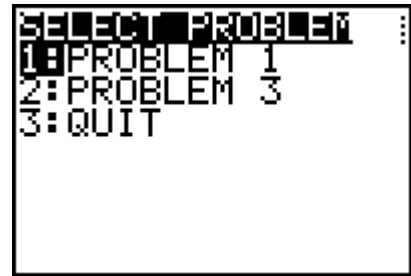


Problem 1 – Introduction to area of a rectangle

Run the **AREA** program and select the option for Problem 1.

Enter 6 for **W**.

1. What are the lengths of the sides of the rectangle?
2. What is the area of the rectangle when $w = 6$?

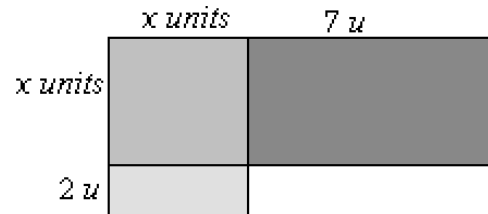


Now, change the width of the side by selecting Problem 1 again and enter a new value for **W**.

3. What is the area of the rectangle when $w = 4$? When $w = 9$?
4. Explain how the expression for the area is simplified.

Problem 2 – Areas of small rectangles

The rectangle at the right has dimensions $(x + 7)$ and $(x + 2)$. Each piece of the rectangle is a different color so that you can focus on its area.



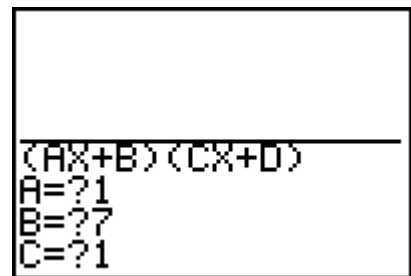
5. What is the area of each small rectangle?
6. What is the total area of the rectangle?

Problem 3 – FOIL method

Run the **AREA** program and select the option for Problem 3.

Enter $(x + 7)(x + 2)$ for $(AX+B)(CX+D)$.

7. How do the areas of the small rectangles in Problem 2 relate to the expression shown on the bottom of the screen?



Practice finding the area of a rectangle and then check your answers with the program.

8. What is the expression of 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

Practice finding the area. Record your answers here. Show each step of your work. Use the program to check your answer.

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

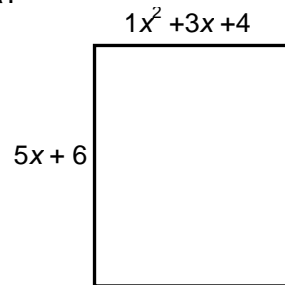
b. $(3x - 7)(2x + 4) =$

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

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

Next, 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 at the right.

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