UNIT 3 • MODELING AND ANALYZING QUADRATIC FUNCTIONS
Lesson 1: Creating and Solving Quadratic Equations in One Variable

Lesson 3.1.4: Factoring Expressions with $a > 1$

Warm-Up 3.1.4

Rosalind is painting three rectangular pictures. The first, a portrait, will have an area of $(x^2 + 5x + 4)$ square inches. Next, she will paint a landscape with an area of $(x^2 + 10x + 24)$ square inches. Finally, she plans to create a modern art piece with an area of $(x^2 - 16)$ square inches. Use the formula for the area of a rectangle, $A = lw$, to complete the following problems.

1. If the length of the portrait is $(x + 4)$ inches, what is the portrait's width?

2. What expressions represent the length and width of the landscape painting, given that the length is longer than the width?

3. For the modern art piece, how much larger is the width than the length?