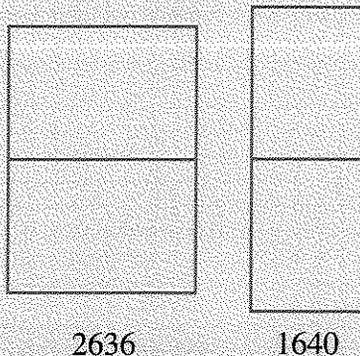In Lesson 8 you figured out how window prices were determined in an imaginary store. Real prices are probably not determined this way.

Window manufacturers use a special four-number code for describing the size of standard two-pane windows like those shown below. The first two numbers give the width in feet and inches, and the last two numbers give the height. For example, the code 2636 means that the window is 2 feet 6 inches wide and 3 feet 6 inches high.

2636   1640

The prices for some windows are given below. You will investigate how the price depends on the dimensions of the window.

Code	Price
3030	$108.00
4030	$135.00
3040	$130.50
4040	$162.00

1. What are the dimensions of a 1640 window?

2. Use the code to figure out the dimensions of the windows. Make a table showing the code, the dimensions, and the price. You may also want to include other measurements, like the perimeter or area.

3. Experiment to figure out how the prices were determined. (The formula is not the same as the one used by the A.B. GLARE window store.) Try to find a pattern. According to your pattern, what should a 3050 window cost?

4. **Report** Write a report about this problem.
   - First, clearly state the problem you are solving.
   - Next, explain the results of your investigation. Include the table you made and explain how you used it to find a formula relating the code to the price. Include sketches and show your calculations in a systematic way. Give a couple of examples to illustrate that your formula really works. Explain why the order of the numbers in the code is important. For example, compare the cost of a 3050 window with the cost of a 5030 window. Make another price list showing what some other windows should cost.
   - Write a brief conclusion commenting on your results. Explain why this method of pricing makes sense. Would it still make sense for very large or very small windows? If you do not think so, can you think of a better way?