Two- and Three-Digit Squares

Problem-of-the-Week

The Problem

Each array shows two two-digit squares reading from left to right, and two two-digit squares reading from top to bottom.

A. Find a fourth pair of two-digit squares that can be arranged in this way.

B. Write one pair of three-digit squares so that, reading from top to bottom, the digits form three two-digit squares.

Strategies and Hints

1. What digits can be in the ones place in a two-digit square? What numbers does this eliminate for the lower number in Part A of the problem?

2. What are the possibilities for the lower number in Part B of the problem?

3. The upper number in Part B cannot end in 3 or 8. Explain why. How does this help in the solution to the problem?

4. There are thirteen ways to arrange *three* three-digit squares so that, reading from top to bottom, the digits form square numbers. Find just one way. You are allowed to use a number more than once.