

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

The Case of the Mysterious Money Trail

Math Detectives, the world-famous counterfeiter, Pat Terns, is spending phony money all over town! The mysterious money trail began this morning, when Ms. May Trixie called me from her Breakfast Diner on 64th street.

"Math Maven, someone paid me with fake twenty dollar bills!" she exclaimed.

"Oh, no!" I said. "That sounds like the work of Pat Terns."

Pat visits unsuspecting towns and passes off her bogus bills as she shops. During her shopping sprees, Pat becomes confused, forgetful, and sometimes lost. To help her keep track of where she's going, Pat follows a certain pattern. This pattern is formed by the street numbers of the places she visits. The trick is to figure out the pattern and stop her in her tracks!

It wasn't long before I got another call reporting funny money. This time it was from the Tip-Top Hat Shop on 49th Street.

"A woman was just here who bought a purple and gold checkered hat," said the shopkeeper. "I looked carefully at the money and realized it was counterfeit!"

Moments later I heard that Pat Terns had visited the Next Step Shoe Store on 36th Street. She bought a pair of purple and gold shoes with her counterfeit cash.

I knew Pat would be hungry after her sinister shopping spree. On a hunch I raced over to Polka Dot Pete's Pie Shop on 25th Street. Pat Terns had just left!

Suddenly, I spotted Pat's checkered hat across the street. "Pat, stop!" I yelled. "I'd know one of your crazy hats anywhere."



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"I'm on my way to Cashflow Bank to deposit an enormous batch of bogus bills!" she taunted. "You'll never figure out which branch to catch me in time, Math Maven!"

With that, she snatched the hat off her head and disappeared into the crowd. I knew she was going to the bank -- but which bank? There are four branches of Cashflow Bank in this town!



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Solve the Mystery!

Quick, detectives, in which branch of the Cashflow Bank will Pat Terns deposit her funny money?

To find a number pattern, think about the operation used to get from one number in the pattern to the next. Here are some examples of patterns:

* 2, 4, 6, 8 . . . (The pattern is to add by 2.)

* 1, 3, 9, 27 . . . (The pattern is to multiply by 3)

* 1, 1, 2, 3, 5, 8, 13 . . . (In this pattern, each number is added to the number to its left. The sum becomes the next number in the series. This number series is called Fibonacci numbers.)

* 1, 2, 4, 7, 11 . . . (Can you figure out the pattern here? Look at the difference between the first and second number, the second and third number, the third and fourth number, and so on.)

Here's a Math Maven hint for solving the pattern in this mystery: Look at your multiplication tables.

Did you figure out Pat Tern's pattern? At which branch will we find Pat and her bogus bills?

- A. Cashflow Bank on 8th Street
- B. Cashflow Bank on 9th Street
- C. Cashflow Bank on 14th Street
- D. Cashflow Bank on 16th Street

Use this space to show your work: