



404: The Address That Survived



COMPLETE TO COLLECT

The Missing Jewel

Unique Jewel - 5 Glints

A MANYFOLD MYSTERY

Rook's Manyfold Directory recovered four suggestions for a vanished page: PATH, MOTH, MASH, and MATE. The missing address has exactly four letters. An address may be any four letters; it does not have to be a word. Each suggestion differs from the missing address in exactly one position.



ROOK'S REPORT

Four near matches.
No exact page.

4

SUGGESTIONS

0

EXACT PAGES

4

LETTERS

1	2	3	4
P	A	T	H
M	O	T	H
M	A	S	H
M	A	T	E

One position away

≠ 1

A suggestion matches the missing address in three positions and differs in exactly one.

"Missing is not the same as unknowable." **VIVIAN**

Turn the page to inspect Rook's recovered report.



READ THE REPORT. TEST THE EVIDENCE.

Recover the address, then test every three-clue case.

2 / 3

Every suggestion differs from the missing address in exactly one position.

KEEP THE EVIDENCE IN VIEW

The complete report

All four rows are aligned by letter position.

1	2	3	4
P	A	T	H
M	O	T	H
M	A	S	H
M	A	T	E

1. RECOVER THE ADDRESS

Write and circle directly on this page.

What address vanished? Write it in the address field. Then circle the one letter in each suggestion that does not match your address.

/ _ _ _ _ /

2. PROVE THE ANY-THREE CLAIM

Use this page and scratch paper as needed.

Rook claims that if any one suggestion is lost, the other three still prove the same missing address. Is Rook correct no matter which suggestion is lost? Explain how you know.

Without PATH _____

Without MOTH _____

Without MASH _____

Without MATE _____

Explain why your conclusion covers every possible lost suggestion.



THE BOUNDARY CASE

When two clues are not enough

Every address below still has four letters. It may be any four letters; it does not have to be a word.

≠ 1

Same rule

Each retained suggestion must be exactly one position away.

FINISH THE PROOF

Record every requested conclusion here.

3 Find the ambiguity. Prove the minimum.

Keep only PATH and MATE. Find every four-letter address that is one letter away from both. Use this pair and Part 2 to determine the fewest suggestions Rook must keep to guarantee that the missing address can still be proved, no matter which suggestions remain.

1	2	3	4
P	A	T	H
M	A	T	E

Every address that works: _____

Fewest suggestions that guarantee recovery: _____

Why this is the minimum: _____

4 Build one more suggestion.

Write one more familiar four-letter word that Rook could suggest for the missing address. It must not be one of the four suggestions already listed. Show which one letter changed.

The changed position is _____ .

AFTER YOU SOLVE IT

Wrong copies can preserve the truth.

You recovered lost information from repeated, imperfect evidence. Comparing how many positions differ is called **Hamming distance**. Adding useful redundancy so errors can be found or repaired is the heart of **error correction**.

