



# The Case of the Missing Golden Badge

Grade 3 math · Addition, Place value, Subtraction, Multiplication, Missing addends · Reading level grades 3-4

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

Someone broke into the Master Vault at the Detective Academy and stole the Golden Badge! The Chief Inspector needs your help to examine the evidence and catch the Rogue Agent before they escape Metro City.

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

**My answer: the Rogue Agent is** \_\_\_\_\_

## Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

| NAME               | SPECIALTY             | GADGET         | HANDEDNESS   | DISGUISE HAIR     | DROPPED EVIDENCE      |
|--------------------|-----------------------|----------------|--------------|-------------------|-----------------------|
| Carmen Sandiego    | Master Detective      | Smoke Pellets  | Right Handed | Sleek Blonde Hair | Loud Magnifying Glass |
| Detective Watson   | Surveillance Tech     | Smoke Pellets  | Right Handed | Sleek Blonde Hair | Squeaky Trench Coat   |
| Rookie Jones       | Master Detective      | Smoke Pellets  | Left Handed  | Curly Red Hair    | Squeaky Trench Coat   |
| Sherlock Holmes    | Surveillance Tech     | Decoy Badge    | Right Handed | Curly Red Hair    | Loud Magnifying Glass |
| Tracker Tom        | Forensic Expert       | Mini Drone     | Left Handed  | Curly Red Hair    | Squeaky Trench Coat   |
| Inspector Gadget   | Forensic Expert       | Smoke Pellets  | Right Handed | Spiky Black Hair  | Bright Flashlight     |
| Velma Dinkley      | Surveillance Tech     | Grappling Hook | Left Handed  | Curly Red Hair    | Loud Magnifying Glass |
| Agent Smith        | Master Detective      | Decoy Badge    | Right Handed | Curly Red Hair    | Loud Magnifying Glass |
| Agent Sterling     | Undercover Specialist | Grappling Hook | Right Handed | Curly Red Hair    | Loud Magnifying Glass |
| Encyclopedia Brown | Master Detective      | Laser Cutter   | Left Handed  | Curly Red Hair    | Loud Magnifying Glass |
| Officer Harper     | Undercover Specialist | Laser Cutter   | Left Handed  | Curly Red Hair    | Loud Magnifying Glass |
| Nancy Drew         | Codebreaker           | Laser Cutter   | Left Handed  | Curly Red Hair    | Squeaky Trench Coat   |
| Dick Tracy         | Codebreaker           | Laser Cutter   | Right Handed | Curly Red Hair    | Loud Magnifying Glass |
| Officer Jenny      | Codebreaker           | Mini Drone     | Right Handed | Sleek Blonde Hair | Loud Magnifying Glass |
| Miss Marple        | Codebreaker           | Smoke Pellets  | Right Handed | Curly Red Hair    | Loud Magnifying Glass |
| Detective Miller   | Codebreaker           | Mini Drone     | Right Handed | Sleek Blonde Hair | Bright Flashlight     |
| Chief Wiggum       | Undercover Specialist | Smoke Pellets  | Right Handed | Curly Red Hair    | Bright Flashlight     |
| Hercule Poirot     | Forensic Expert       | Smoke Pellets  | Left Handed  | Curly Red Hair    | Squeaky Trench Coat   |
| Sam Spade          | Master Detective      | Grappling Hook | Right Handed | Sleek Blonde Hair | Squeaky Trench Coat   |
| Fred Jones         | Surveillance Tech     | Decoy Badge    | Left Handed  | Sleek Blonde Hair | Loud Magnifying Glass |
| Lieutenant Columbo | Codebreaker           | Smoke Pellets  | Left Handed  | Spiky Black Hair  | Loud Magnifying Glass |

## CLUE 1 Addition

You collect fingerprints around the vault door and add up all the clear prints found on the handle.

Solve each problem, then write its letter in every clue box that shows the same number.

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| T   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 671 | 353 | 984 | 307 | 890 | 371 | 770 | 984 | 740 | 371 | 984 | 501 | 671 | 935 | 890 | 984 | 907 |     |  |
|     |     | T   |     |     |     |     |     |     |     |     |     |     |     |     | T   | T   |     |  |
| 501 | 890 | 671 | 770 | 907 | 984 | 740 | 777 | 740 | 907 | 984 | 307 | 470 | 770 | 671 | 671 | 984 | 307 |  |

$$416 + 255 = \boxed{\phantom{000}} \rightarrow \boxed{\text{T}}$$

$$212 + 141 = \boxed{\phantom{000}} \rightarrow \boxed{\text{H}}$$

$$398 + 586 = \boxed{\phantom{000}} \rightarrow \boxed{\text{E}}$$

$$308 + 432 = \boxed{\phantom{000}} \rightarrow \boxed{\text{A}}$$

$$441 + 494 = \boxed{\phantom{000}} \rightarrow \boxed{\text{D}}$$

$$107 + 200 = \boxed{\phantom{000}} \rightarrow \boxed{\text{R}}$$

$$189 + 312 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

$$332 + 438 = \boxed{\phantom{000}} \rightarrow \boxed{\text{U}}$$

$$390 + 387 = \boxed{\phantom{000}} \rightarrow \boxed{\text{L}}$$

$$162 + 308 = \boxed{\phantom{000}} \rightarrow \boxed{\text{C}}$$

$$286 + 604 = \boxed{\phantom{000}} \rightarrow \boxed{\text{O}}$$

$$242 + 129 = \boxed{\phantom{000}} \rightarrow \boxed{\text{G}}$$

$$295 + 612 = \boxed{\phantom{000}} \rightarrow \boxed{\text{S}}$$

Scratch space:

## CLUE 2 Place value

The digital lock screen flickers, showing digits in the tens and hundreds places that reveal a clue code.

Solve each problem, then write its letter in every clue box that shows the same number.

|     |      |     |      |    |     |      |    |     |    |      |    |     |    |    |      |     |
|-----|------|-----|------|----|-----|------|----|-----|----|------|----|-----|----|----|------|-----|
| S   |      | S   |      |    |     |      |    |     |    |      |    | S   |    |    |      |     |
| 900 | 4000 | 900 | 1000 | 70 | 700 | 6000 | 30 | 600 | 80 | 6000 | 70 | 900 | 30 | 80 | 6000 | 500 |

  

|      |     |    |    |     |     |    |      |     |      |     |    |      |    |  |  |  |
|------|-----|----|----|-----|-----|----|------|-----|------|-----|----|------|----|--|--|--|
|      |     |    |    |     |     |    |      |     |      |     |    |      |    |  |  |  |
| 6000 | 500 | 70 | 80 | 600 | 600 | 80 | 2000 | 500 | 6000 | 500 | 20 | 3000 | 50 |  |  |  |

What is the value of the 9 in 962?  → **S**

What is the value of the 5 in 9,957?  → **D**

What is the value of the 8 in 4,380?  → **I**

What is the value of the 3 in 937?  → **W**

What is the value of the 2 in 32,885?  → **G**

What is the value of the 7 in 6,786?  → **C**

What is the value of the 1 in 1,747?  → **P**

What is the value of the 2 in 4,524?  → **A**

What is the value of the 6 in 76,982?  → **T**

What is the value of the 6 in 5,615?  → **R**

What is the value of the 4 in 4,513?  → **U**

What is the value of the 3 in 93,865?  → **N**

What is the value of the 7 in 670?  → **E**

What is the value of the 5 in 4,530?  → **H**

Scratch space:

## CLUE 3

## Subtraction

You count the total footprints in the hallway and subtract the stray ones left by helpful officers.

Solve each problem, then write its letter in every clue box that shows the same number.

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| A   |     |     |     |     |     | A   |     |     |     |     |     |     |     |     |     |     |     | A   |     |  |
| 874 | 524 | 234 | 436 | 887 | 206 | 874 | 376 | 304 | 691 | 664 | 207 | 691 | 304 | 376 | 376 | 524 | 874 | 247 | 247 |  |

  

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     |     |     |     | A   |     |     |     |     |     |     |  |
| 887 | 229 | 234 | 728 | 728 | 187 | 887 | 874 | 782 | 247 | 893 | 187 | 304 | 187 |  |

$1220 - 346 = \square \rightarrow \boxed{\text{A}}$

$372 - 138 = \square \rightarrow \boxed{\text{O}}$

$777 - 253 = \square \rightarrow \boxed{\text{L}}$

$915 - 187 = \square \rightarrow \boxed{\text{P}}$

$504 - 257 = \square \rightarrow \boxed{\text{S}}$

$703 - 267 = \square \rightarrow \boxed{\text{U}}$

$1136 - 354 = \square \rightarrow \boxed{\text{T}}$

$830 - 166 = \square \rightarrow \boxed{\text{F}}$

$491 - 115 = \square \rightarrow \boxed{\text{G}}$

$558 - 329 = \square \rightarrow \boxed{\text{R}}$

$932 - 39 = \square \rightarrow \boxed{\text{C}}$

$615 - 311 = \square \rightarrow \boxed{\text{N}}$

$327 - 120 = \square \rightarrow \boxed{\text{Y}}$

$925 - 38 = \square \rightarrow \boxed{\text{D}}$

$1011 - 320 = \square \rightarrow \boxed{\text{I}}$

$238 - 51 = \square \rightarrow \boxed{\text{E}}$

$580 - 374 = \square \rightarrow \boxed{\text{M}}$

Scratch space:



**CLUE 5****Missing addends - the last clue**

You calculate how many secret badges are left on the rack to see how many were taken.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

**Step 1 - solve these:**

$1 + \underline{\quad} = 12$

$3 + \underline{\quad} = 7$

$2 + \underline{\quad} = 7$

$2 + \underline{\quad} = 11$

$3 + \underline{\quad} = 4$

$1 + \underline{\quad} = 7$

$7 + \underline{\quad} = 10$

$7 + \underline{\quad} = 14$

$2 + \underline{\quad} = 14$

$4 + \underline{\quad} = 6$

$10 + \underline{\quad} = 20$

**Step 2 - cross out the sentence with each answer:**

1. The villain swiped the golden badge, then escaped using a grappling hook.
2. The villain hacked the security grid, then cut through metal bars.
3. The villain snagged the case files, then flew away with a mini drone.
4. The villain cracked the safe lock, then dropped a decoy badge.
5. The villain erased the camera logs, then dropped a decoy badge.
6. The villain hacked the security grid, then escaped using a grappling hook.
7. The villain cracked the safe lock, then escaped using a grappling hook.
8. The villain swiped the golden badge, then vanished with smoke pellets.
9. The villain erased the camera logs, then escaped using a grappling hook.
10. The villain snagged the case files, then cut through metal bars.
11. The villain snagged the case files, then escaped using a grappling hook.
12. The villain cracked the safe lock, then vanished with smoke pellets.

# Answer Key

## The Case of the Missing Golden Badge

### Culprit: Miss Marple

Codebreaker · Smoke Pellets · Right Handed · Curly Red Hair · Loud Magnifying Glass

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

#### Clue 1 (Addition): "THE ROGUE AGENT DOES NOT USE A LASER CUTTER"

$416 + 255 = 671$  (T) ·  $212 + 141 = 353$  (H) ·  $398 + 586 = 984$  (E) ·  $308 + 432 = 740$  (A) ·  $441 + 494 = 935$  (D) ·  $107 + 200 = 307$  (R) ·  $189 + 312 = 501$  (N) ·  $332 + 438 = 770$  (U) ·  $390 + 387 = 777$  (L) ·  $162 + 308 = 470$  (C) ·  $286 + 604 = 890$  (O) ·  $242 + 129 = 371$  (G) ·  $295 + 612 = 907$  (S)

#### Clue 2 (Place value): "SUSPECT WRITES WITH THEIR RIGHT HAND"

What is the value of the 9 in 962? = 900 (S) · What is the value of the 5 in 9,957? = 50 (D) · What is the value of the 8 in 4,380? = 80 (I) · What is the value of the 3 in 937? = 30 (W) · What is the value of the 2 in 32,885? = 2000 (G) · What is the value of the 7 in 6,786? = 700 (C) · What is the value of the 1 in 1,747? = 1000 (P) · What is the value of the 2 in 4,524? = 20 (A) · What is the value of the 6 in 76,982? = 6000 (T) · What is the value of the 6 in 5,615? = 600 (R) · What is the value of the 4 in 4,513? = 4000 (U) · What is the value of the 3 in 93,865? = 3000 (N) · What is the value of the 7 in 670? = 70 (E) · What is the value of the 5 in 4,530? = 500 (H)

#### Clue 3 (Subtraction): "A LOUD MAGNIFYING GLASS DROPPED AT SCENE"

$1220 - 346 = 874$  (A) ·  $372 - 138 = 234$  (O) ·  $777 - 253 = 524$  (L) ·  $915 - 187 = 728$  (P) ·  $504 - 257 = 247$  (S) ·  $703 - 267 = 436$  (U) ·  $1136 - 354 = 782$  (T) ·  $830 - 166 = 664$  (F) ·  $491 - 115 = 376$  (G) ·  $558 - 329 = 229$  (R) ·  $932 - 39 = 893$  (C) ·  $615 - 311 = 304$  (N) ·  $327 - 120 = 207$  (Y) ·  $925 - 38 = 887$  (D) ·  $1011 - 320 = 691$  (I) ·  $238 - 51 = 187$  (E) ·  $580 - 374 = 206$  (M)

#### Clue 4 (Multiplication facts (1-12)): "DETECTIVES FOUND CURLY RED HAIR AT SCENE"

$10 \times 7 = 70$  (D) ·  $9 \times 9 = 81$  (E) ·  $12 \times 12 = 144$  (L) ·  $7 \times 1 = 7$  (F) ·  $8 \times 8 = 64$  (C) ·  $2 \times 4 = 8$  (O) ·  $12 \times 7 = 84$  (V) ·  $9 \times 7 = 63$  (U) ·  $11 \times 7 = 77$  (Y) ·  $11 \times 11 = 121$  (A) ·  $8 \times 11 = 88$  (R) ·  $4 \times 8 = 32$  (N) ·  $11 \times 3 = 33$  (I) ·  $6 \times 10 = 60$  (S) ·  $10 \times 5 = 50$  (H) ·  $9 \times 5 = 45$  (T)

#### Clue 5 (Missing addends): surviving statement is box 8 → Miss Marple

$1 + \underline{\quad} = 12$  = 11 ·  $3 + \underline{\quad} = 7$  = 4 ·  $2 + \underline{\quad} = 7$  = 5 ·  $2 + \underline{\quad} = 11$  = 9 ·  $3 + \underline{\quad} = 4$  = 1 ·  $1 + \underline{\quad} = 7$  = 6 ·  $7 + \underline{\quad} = 10$  = 3 ·  $7 + \underline{\quad} = 14$  = 7 ·  $2 + \underline{\quad} = 14$  = 12 ·  $4 + \underline{\quad} = 6$  = 2 ·  $10 + \underline{\quad} = 20$  = 10