



The Great Detective Guild Heist

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

Detective: _____ **Date:** _____

Someone broke into the Master Evidence Vault at Sleuth Academy and swiped the Golden Magnifying Glass. The culprit left encrypted notes and clue clues across the precinct. Help Chief Clara decode the evidence to catch the sneaky rogue.

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 detective is _____

Possible suspects

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

NAME	SPECIALTY TOOL	DISGUISE KIT	STANCE	HAT STYLE	SECRET FLAW
Nancy	UV Flashlight	Trench Coat	Right Handed	Newsboy Cap	Loud Squeaky Shoes
Watson	Codebook Decoder	Dark Sunglasses	Left Handed	Newsboy Cap	Sneeze From Dust
Nora	Fingerprint Kit	Fake Mustache	Left Handed	Deerstalker	Scared Of Dogs
Marple	Lockpick Set	Fake Badge	Left Handed	Fedora	Loud Squeaky Shoes
Tracy	Codebook Decoder	Bowler Hat	Left Handed	Fedora	Loud Squeaky Shoes
Sam	Codebook Decoder	Trench Coat	Left Handed	Deerstalker	Scared Of Dogs
Poirot	Fingerprint Kit	Trench Coat	Left Handed	Newsboy Cap	Loud Squeaky Shoes
Nick	Fingerprint Kit	Trench Coat	Left Handed	Fedora	Loud Squeaky Shoes
Dupin	Fingerprint Kit	Dark Sunglasses	Left Handed	Fedora	Loud Squeaky Shoes
Hardy	Lockpick Set	Trench Coat	Left Handed	Newsboy Cap	Loud Squeaky Shoes
Spade	Codebook Decoder	Fake Mustache	Left Handed	Deerstalker	Scared Of Dogs
Archy	UV Flashlight	Dark Sunglasses	Right Handed	Deerstalker	Scared Of Dogs
Gidget	Fingerprint Kit	Dark Sunglasses	Left Handed	Newsboy Cap	Sneeze From Dust
Sherlock	Smoke Bomb	Fake Badge	Left Handed	Newsboy Cap	Scared Of Dogs
Fred	UV Flashlight	Trench Coat	Left Handed	Deerstalker	Scared Of Dogs
Enola	Smoke Bomb	Fake Mustache	Left Handed	Newsboy Cap	Loud Squeaky Shoes
Scooby	Lockpick Set	Dark Sunglasses	Left Handed	Fedora	Sneeze From Dust
Daphne	Smoke Bomb	Fake Mustache	Left Handed	Fedora	Loud Squeaky Shoes
Columbo	Codebook Decoder	Dark Sunglasses	Right Handed	Newsboy Cap	Sneeze From Dust
Marlow	Codebook Decoder	Trench Coat	Right Handed	Fedora	Loud Squeaky Shoes
Velma	Codebook Decoder	Fake Mustache	Left Handed	Fedora	Sneeze From Dust

CLUE 1 Addition

Chief Clara counted the footprints in the muddy courtyard by combining two sets of tracks.

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

T									T						T			
235	404	918	405	692	791	466	880	612	235	381	612	381	746	292	235	692	398	918

251	700	251	865	918	668	251	381	620	918

$125 + 110 = \square \rightarrow \text{T}$	$451 + 467 = \square \rightarrow \text{E}$	$422 + 190 = \square \rightarrow \text{I}$
$274 + 418 = \square \rightarrow \text{U}$	$330 + 370 = \square \rightarrow \text{F}$	$75 + 176 = \square \rightarrow \text{A}$
$156 + 225 = \square \rightarrow \text{D}$	$209 + 196 = \square \rightarrow \text{C}$	$447 + 344 = \square \rightarrow \text{L}$
$220 + 400 = \square \rightarrow \text{G}$	$257 + 147 = \square \rightarrow \text{H}$	$323 + 423 = \square \rightarrow \text{N}$
$217 + 249 = \square \rightarrow \text{P}$	$431 + 237 = \square \rightarrow \text{B}$	$471 + 409 = \square \rightarrow \text{R}$
$116 + 176 = \square \rightarrow \text{O}$	$389 + 476 = \square \rightarrow \text{K}$	$238 + 160 = \square \rightarrow \text{S}$

Scratch space:

CLUE 2 Place value

A digital cipher on the vault lock displays numbers based on hundreds, tens, and ones.

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

W									W					W				
10	1000	6000	80	600	90	90	90	3000	10	6000	60	600	50	10	30	1000	6000	600

W												
10	1000	6000	60	300	600	900	6000	60	3000	80	100	

What is the value of the 1 in 419? → **W**

What is the value of the 6 in 265? → **H**

What is the value of the 3 in 1,134? → **R**

What is the value of the 9 in 5,907? → **F**

What is the value of the 1 in 1,387? → **I**

What is the value of the 8 in 983? → **N**

What is the value of the 9 in 8,392? → **S**

What is the value of the 3 in 13,051? → **A**

What is the value of the 1 in 4,169? → **D**

What is the value of the 3 in 4,399? → **L**

What is the value of the 5 in 7,151? → **M**

What is the value of the 6 in 6,203? → **T**

What is the value of the 6 in 615? → **E**

Scratch space:

CLUE 3

Multiplication facts (1-12)

The detective examined evidence boards arranged in equal rows and columns across the office.

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

F																		
14	33	33	72	54	72	10	84	54	10	30	28	33	10	42	99	77	72	28

25	33	56	42	54	70	56	10	6	100	36	54	28	33	10	54

$7 \times 2 = \square \rightarrow \boxed{\text{F}}$

$10 \times 10 = \square \rightarrow \boxed{\text{K}}$

$2 \times 3 = \square \rightarrow \boxed{\text{A}}$

$12 \times 7 = \square \rightarrow \boxed{\text{P}}$

$10 \times 7 = \square \rightarrow \boxed{\text{Q}}$

$7 \times 11 = \square \rightarrow \boxed{\text{I}}$

$5 \times 6 = \square \rightarrow \boxed{\text{C}}$

$10 \times 1 = \square \rightarrow \boxed{\text{E}}$

$12 \times 6 = \square \rightarrow \boxed{\text{T}}$

$4 \times 7 = \square \rightarrow \boxed{\text{H}}$

$3 \times 11 = \square \rightarrow \boxed{\text{O}}$

$6 \times 9 = \square \rightarrow \boxed{\text{S}}$

$8 \times 7 = \square \rightarrow \boxed{\text{U}}$

$9 \times 11 = \square \rightarrow \boxed{\text{W}}$

$5 \times 5 = \square \rightarrow \boxed{\text{L}}$

$4 \times 9 = \square \rightarrow \boxed{\text{Y}}$

$7 \times 6 = \square \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 4
Subtraction

To figure out how many files were taken, the team subtracted the remaining folders from the original pile.

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

A						A		A								
315	576	757	791	800	149	315	706	315	187	791	149	800	365	365	757	791

		A						A								
838	757	315	149	186	254	757	665	315	761	671	186	791	800	800	149	

$603 - 288 = \boxed{} \rightarrow \boxed{\text{A}}$

$377 - 191 = \boxed{} \rightarrow \boxed{\text{T}}$

$773 - 108 = \boxed{} \rightarrow \boxed{\text{V}}$

$1045 - 339 = \boxed{} \rightarrow \boxed{\text{W}}$

$1092 - 254 = \boxed{} \rightarrow \boxed{\text{N}}$

$980 - 189 = \boxed{} \rightarrow \boxed{\text{D}}$

$864 - 288 = \boxed{} \rightarrow \boxed{\text{F}}$

$915 - 244 = \boxed{} \rightarrow \boxed{\text{L}}$

$1026 - 269 = \boxed{} \rightarrow \boxed{\text{E}}$

$193 - 6 = \boxed{} \rightarrow \boxed{\text{S}}$

$1021 - 260 = \boxed{} \rightarrow \boxed{\text{U}}$

$746 - 381 = \boxed{} \rightarrow \boxed{\text{P}}$

$403 - 254 = \boxed{} \rightarrow \boxed{\text{R}}$

$257 - 3 = \boxed{} \rightarrow \boxed{\text{H}}$

$1121 - 321 = \boxed{} \rightarrow \boxed{\text{O}}$

Scratch space:

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

The suspect left a partial passcode on the keypad, needing one last missing digit to total the vault sum.

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:

$2 + \underline{\quad} = 9$

$6 + \underline{\quad} = 14$

$8 + \underline{\quad} = 14$

$1 + \underline{\quad} = 3$

$10 + \underline{\quad} = 14$

$7 + \underline{\quad} = 18$

$6 + \underline{\quad} = 11$

$8 + \underline{\quad} = 11$

$2 + \underline{\quad} = 12$

$6 + \underline{\quad} = 15$

$8 + \underline{\quad} = 20$

Step 2 - cross out the sentence with each answer:

1. The villain vanished into mist with a smoke bomb, then adjusted a fake mustache.
2. The villain decoded the safe with a codebook decoder, then flashed a fake badge.
3. The villain dusted the handle with a fingerprint kit, then flashed a fake badge.
4. The villain vanished into mist with a smoke bomb, then tipped dark sunglasses.
5. The villain decoded the safe with a codebook decoder, then adjusted a fake mustache.
6. The villain dusted the handle with a fingerprint kit, then tipped dark sunglasses.
7. The villain dusted the handle with a fingerprint kit, then swished a heavy trench coat.
8. The villain decoded the safe with a codebook decoder, then adjusted a bowler hat.
9. The villain scratched the vault lock with a UV flashlight, then adjusted a bowler hat.
10. The villain scratched the vault lock with a UV flashlight, then tipped dark sunglasses.
11. The villain scratched the vault lock with a UV flashlight, then adjusted a fake mustache.
12. The villain decoded the safe with a codebook decoder, then tipped dark sunglasses.

Answer Key

The Great Detective Guild Heist

Culprit: Daphne

Smoke Bomb · Fake Mustache · Left Handed · Fedora · Loud Squeaky Shoes

Trail: Start 21 → Clue 1 19 → Clue 2 15 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CULPRIT DID NOT USE A FAKE BADGE"

$125 + 110 = 235$ (T) · $451 + 467 = 918$ (E) · $422 + 190 = 612$ (I) · $274 + 418 = 692$ (U) · $330 + 370 = 700$ (F) · $75 + 176 = 251$ (A) · $156 + 225 = 381$ (D) · $209 + 196 = 405$ (C) · $447 + 344 = 791$ (L) · $220 + 400 = 620$ (G) · $257 + 147 = 404$ (H) · $323 + 423 = 746$ (N) · $217 + 249 = 466$ (P) · $431 + 237 = 668$ (B) · $471 + 409 = 880$ (R) · $116 + 176 = 292$ (O) · $389 + 476 = 865$ (K) · $238 + 160 = 398$ (S)

Clue 2 (Place value): "WITNESS SAW THEM WRITE WITH LEFT HAND"

What is the value of the 1 in 419? = 10 (W) · What is the value of the 6 in 265? = 60 (H) · What is the value of the 3 in 1,134? = 30 (R) · What is the value of the 9 in 5,907? = 900 (F) · What is the value of the 1 in 1,387? = 1000 (I) · What is the value of the 8 in 983? = 80 (N) · What is the value of the 9 in 8,392? = 90 (S) · What is the value of the 3 in 13,051? = 3000 (A) · What is the value of the 1 in 4,169? = 100 (D) · What is the value of the 3 in 4,399? = 300 (L) · What is the value of the 5 in 7,151? = 50 (M) · What is the value of the 6 in 6,203? = 6000 (T) · What is the value of the 6 in 615? = 600 (E)

Clue 3 (Multiplication facts (1-12)): "FOOTSTEPS ECHOED WITH LOUD SQUEAKY SHOES"

$7 \times 2 = 14$ (F) · $10 \times 10 = 100$ (K) · $2 \times 3 = 6$ (A) · $12 \times 7 = 84$ (P) · $10 \times 7 = 70$ (Q) · $7 \times 11 = 77$ (I) · $5 \times 6 = 30$ (C) · $10 \times 1 = 10$ (E) · $12 \times 6 = 72$ (T) · $4 \times 7 = 28$ (H) · $3 \times 11 = 33$ (O) · $6 \times 9 = 54$ (S) · $8 \times 7 = 56$ (U) · $9 \times 11 = 99$ (W) · $5 \times 5 = 25$ (L) · $4 \times 9 = 36$ (Y) · $7 \times 6 = 42$ (D)

Clue 4 (Subtraction): "A FEDORA WAS DROPPED NEAR THE VAULT DOOR"

$603 - 288 = 315$ (A) · $377 - 191 = 186$ (T) · $773 - 108 = 665$ (V) · $1045 - 339 = 706$ (W) · $1092 - 254 = 838$ (N) · $980 - 189 = 791$ (D) · $864 - 288 = 576$ (F) · $915 - 244 = 671$ (L) · $1026 - 269 = 757$ (E) · $193 - 6 = 187$ (S) · $1021 - 260 = 761$ (U) · $746 - 381 = 365$ (P) · $403 - 254 = 149$ (R) · $257 - 3 = 254$ (H) · $1121 - 321 = 800$ (O)

Clue 5 (Missing addends): surviving statement is box 1 → Daphne

$2 + \underline{\quad} = 9 = 7$ · $6 + \underline{\quad} = 14 = 8$ · $8 + \underline{\quad} = 14 = 6$ · $1 + \underline{\quad} = 3 = 2$ · $10 + \underline{\quad} = 14 = 4$ · $7 + \underline{\quad} = 18 = 11$ · $6 + \underline{\quad} = 11 = 5$ · $8 + \underline{\quad} = 11 = 3$ · $2 + \underline{\quad} = 12 = 10$ · $6 + \underline{\quad} = 15 = 9$ · $8 + \underline{\quad} = 20 = 12$