



The Case of the Missing Holo-Key

Grade 4 math · Rounding, Addition, Subtraction, Multiplication, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone has bypassed the security lasers and swiped the golden Holo-Key from the Spy High Vault. The Chief of Gadgets is locked in the training room! We must decode the files to find the rogue agent before they escape on the spy jet.

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	PRIMARY GADGET	SPECIALTY SKILL	DOMINANT HAND	HAIR DYE COLOR	GEAR COUNTER
Perry	Stealth Cloak	Wall Climbing	Right-handed	Neon Blue	Strong Magnets
Clover	Stealth Cloak	Wall Climbing	Right-handed	Flaming Red	Bright Flash
Jason	Stealth Cloak	Laser Dodging	Left-handed	Neon Blue	Bright Flash
Cody	Grappling Hook	Safe Cracking	Left-handed	Neon Blue	Loud Noises
Alex	Decoy Drone	Wall Climbing	Left-handed	Jet Black	Bright Flash
Chase	Grappling Hook	Code Breaking	Left-handed	Flaming Red	Loud Noises
Danger	Grappling Hook	Safe Cracking	Right-handed	Jet Black	Bright Flash
Skye	Grappling Hook	Code Breaking	Left-handed	Flaming Red	Bright Flash
Ryder	Decoy Drone	Laser Dodging	Left-handed	Neon Blue	Strong Magnets
Penny	Decoy Drone	Wall Climbing	Left-handed	Flaming Red	Bright Flash
Natasha	Stealth Cloak	Code Breaking	Left-handed	Flaming Red	Loud Noises
Sam	Rocket Boots	Wall Climbing	Left-handed	Flaming Red	Bright Flash
Kim	Laser Watch	Laser Dodging	Left-handed	Flaming Red	Bright Flash
Johnny	Laser Watch	Wall Climbing	Right-handed	Jet Black	Loud Noises
Gadget	Decoy Drone	Wall Climbing	Left-handed	Neon Blue	Loud Noises
James	Grappling Hook	Laser Dodging	Right-handed	Jet Black	Loud Noises
Carmen	Rocket Boots	Laser Dodging	Right-handed	Jet Black	Strong Magnets
Ethan	Stealth Cloak	Safe Cracking	Right-handed	Flaming Red	Loud Noises
Austin	Grappling Hook	Wall Climbing	Left-handed	Flaming Red	Bright Flash
Fox	Stealth Cloak	Code Breaking	Left-handed	Neon Blue	Loud Noises
Clouseau	Decoy Drone	Safe Cracking	Left-handed	Neon Blue	Bright Flash

CLUE 1

The digital security terminal shows the approximate power usage of the rogue's gadget. We need to round these numbers to the nearest ten to unlock the main system logs.

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

A number line from 0 to 10,000 with major tick marks every 1,000 units. The number line is divided into three sections. The first section (0 to 5,000) has labels 2000, 4300, and 2900. The second section (5,000 to 9,000) has labels 70, 1700, 430, 430, 50, 1700, and 90. The third section (9,000 to 10,000) has labels 5000, 3000, 2900, 170, 90, 3000, and 2000. The numbers 2000 and 2000 are highlighted in orange.

Round 2,110 to the nearest thousand → **T**

Round 87 to the nearest ten → **N**

Round 2,709 to the nearest thousand $\rightarrow$

Round 1,700 to the nearest hundred $\rightarrow$

Round 167 to the nearest ten → **S**

Round 4,323 to the nearest hundred → **H**

Round 73 to the nearest ten →

Round 108 to the nearest ten → **G**

Round 297 to the nearest hundred → **U**

Round 434 to the nearest ten $\rightarrow$ **L**

Round 709 to the nearest hundred $\rightarrow$ **R**

Round 5,359 to the nearest thousand → **D**

Round 2,855 to the nearest hundred → **E**

Round 47 to the nearest ten $\rightarrow$ **A**

Scratch space:

CLUE 2

We found several scattered pages of the rogue's escape plan. Let's add up the code numbers on each page to find the total security override passcode.

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

$$1732 + 2241 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2300 + 3966 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$2132 + 3049 = \boxed{} \rightarrow \mathbf{P}$$

$$1935 + 2132 = \boxed{} \rightarrow \boxed{0}$$

$1365 + 1906 = \boxed{} \rightarrow \mathbf{S}$

$$3879 + 1873 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3280 + 4013 = \boxed{} \rightarrow \boxed{\text{W}}$$

$4781 + 3060 = \boxed{} \rightarrow \mathbf{N}$

$$5878 + 2800 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$2595 + 1255 = \boxed{} \rightarrow \boxed{\text{R}}$$

$1054 + 972 = \boxed{} \rightarrow \boxed{} \mid \boxed{}$

$869 + 1996 = \boxed{} \rightarrow \boxed{\text{E}}$

$$4846 + 3235 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$4061 + 4080 = \boxed{} \rightarrow \mathbf{F}$$

$$1447 + 2727 = \boxed{} \rightarrow \boxed{\text{C}}$$

$1625 + 2343 = \boxed{} \rightarrow \mathbf{A}$

Scratch space:

CLUE 3

Subtraction

The spy academy vault scale shows some weight is missing. By subtracting the current vault weight from yesterday's record, we can find out how much fuel the rogue stole.

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

T																	
5756	8031	8884	6603	5564	7922	7433	8884	7699	6701	6882	7059	3784	1243	7271	1121	8884	1121

							T						
7059	8502	6701	7059	6603	1243	7922	8031	5756	4544	3784	6701	6882	8031

$6094 - 338 = \square \rightarrow \boxed{T}$

$7955 - 2391 = \square \rightarrow \boxed{O}$

$10615 - 3344 = \square \rightarrow \boxed{N}$

$12255 - 3371 = \square \rightarrow \boxed{E}$

$11620 - 3589 = \square \rightarrow \boxed{H}$

$8628 - 4084 = \square \rightarrow \boxed{F}$

$5250 - 4007 = \square \rightarrow \boxed{I}$

$8463 - 4679 = \square \rightarrow \boxed{L}$

$2458 - 1337 = \square \rightarrow \boxed{D}$

$10479 - 3778 = \square \rightarrow \boxed{A}$

$6978 - 96 = \square \rightarrow \boxed{S}$

$11986 - 4064 = \square \rightarrow \boxed{G}$

$12842 - 4340 = \square \rightarrow \boxed{Y}$

$9327 - 1628 = \square \rightarrow \boxed{W}$

$9384 - 1951 = \square \rightarrow \boxed{U}$

$8534 - 1475 = \square \rightarrow \boxed{B}$

$9654 - 3051 = \square \rightarrow \boxed{R}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

To crack the secondary encryption, we must look at the rows of security lasers in the grid. Multiply the rows by the columns to figure out the active security bypass code.

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

T						T				T								
11	54	50	60	96	50	88	11	72	50	144	11	144	72	60	36	9	88	96
							T	T										
21	50	108	54	60	9	21	60	11	11	54	50	42	44	50	88	50		

$1 \times 11 = \square \rightarrow \boxed{\text{T}}$

$12 \times 12 = \square \rightarrow \boxed{\text{F}}$

$8 \times 12 = \square \rightarrow \boxed{\text{G}}$

$9 \times 1 = \square \rightarrow \boxed{\text{I}}$

$10 \times 5 = \square \rightarrow \boxed{\text{E}}$

$11 \times 8 = \square \rightarrow \boxed{\text{N}}$

$12 \times 9 = \square \rightarrow \boxed{\text{D}}$

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

$12 \times 5 = \square \rightarrow \boxed{\text{A}}$

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

$8 \times 9 = \square \rightarrow \boxed{\text{L}}$

$12 \times 3 = \square \rightarrow \boxed{\text{M}}$

$7 \times 3 = \square \rightarrow \boxed{\text{R}}$

$11 \times 4 = \square \rightarrow \boxed{\text{C}}$

Scratch space:

CLUE 5**Division facts (1-12) - the last clue**

We need to split the remaining tracking devices equally among our active field agents. Use division to determine how many trackers each agent gets.

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:

$45 \div 9 = \boxed{}$

$8 \div 4 = \boxed{}$

$48 \div 12 = \boxed{}$

$1 \div 1 = \boxed{}$

$120 \div 12 = \boxed{}$

$18 \div 2 = \boxed{}$

$15 \div 5 = \boxed{}$

$60 \div 10 = \boxed{}$

$96 \div 12 = \boxed{}$

$36 \div 3 = \boxed{}$

$84 \div 12 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain disables the alarms with a laser watch, then escapes over the barbed wire by wall climbing.
2. The villain scales the vault wall with a grappling hook, then escapes over the barbed wire by wall climbing.
3. The villain disables the alarms with a laser watch, then bypasses the digital vault door by code breaking.
4. The villain scales the vault wall with a grappling hook, then bypasses the digital vault door by code breaking.
5. The villain distracts the security team with a decoy drone, then escapes over the barbed wire by wall climbing.
6. The villain slips past the guards using a stealth cloak, then opens the titanium strongbox by safe cracking.
7. The villain blasts through the skylight with rocket boots, then opens the back emergency exit by lock picking.
8. The villain disables the alarms with a laser watch, then opens the back emergency exit by lock picking.
9. The villain scales the vault wall with a grappling hook, then opens the back emergency exit by lock picking.
10. The villain disables the alarms with a laser watch, then opens the titanium strongbox by safe cracking.
11. The villain blasts through the skylight with rocket boots, then escapes over the barbed wire by wall climbing.
12. The villain blasts through the skylight with rocket boots, then opens the titanium strongbox by safe cracking.

Answer Key

The Case of the Missing Holo-Key

Culprit: Sam

Rocket Boots · Wall Climbing · Left-handed · Flaming Red · Bright Flash

Trail: Start 21 → Clue 1 16 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DOES NOT USE LASER DODGING"

Round 2,110 to the nearest thousand = 2000 (T) · Round 87 to the nearest ten = 90 (N) · Round 2,709 to the nearest thousand = 3000 (O) · Round 1,700 to the nearest hundred = 1700 (I) · Round 167 to the nearest ten = 170 (S) · Round 4,323 to the nearest hundred = 4300 (H) · Round 73 to the nearest ten = 70 (V) · Round 108 to the nearest ten = 110 (G) · Round 297 to the nearest hundred = 300 (U) · Round 434 to the nearest ten = 430 (L) · Round 709 to the nearest hundred = 700 (R) · Round 5,359 to the nearest thousand = 5000 (D) · Round 2,855 to the nearest hundred = 2900 (E) · Round 47 to the nearest ten = 50 (A)

Clue 2 (Addition): "THE SUSPECT WROTE NOTES WITH THE LEFT HAND"

$1732 + 2241 = 3973$ (T) · $2300 + 3966 = 6266$ (L) · $2132 + 3049 = 5181$ (P) · $1935 + 2132 = 4067$ (O) · $1365 + 1906 = 3271$ (S) · $3879 + 1873 = 5752$ (H) · $3280 + 4013 = 7293$ (W) · $4781 + 3060 = 7841$ (N) · $5878 + 2800 = 8678$ (U) · $2595 + 1255 = 3850$ (R) · $1054 + 972 = 2026$ (I) · $869 + 1996 = 2865$ (E) · $4846 + 3235 = 8081$ (D) · $4061 + 4080 = 8141$ (F) · $1447 + 2727 = 4174$ (C) · $1625 + 2343 = 3968$ (A)

Clue 3 (Subtraction): "THE ROGUE WAS BLINDED BY A BRIGHT FLASH"

$6094 - 338 = 5756$ (T) · $7955 - 2391 = 5564$ (O) · $10615 - 3344 = 7271$ (N) · $12255 - 3371 = 8884$ (E) · $11620 - 3589 = 8031$ (H) · $8628 - 4084 = 4544$ (F) · $5250 - 4007 = 1243$ (I) · $8463 - 4679 = 3784$ (L) · $2458 - 1337 = 1121$ (D) · $10479 - 3778 = 6701$ (A) · $6978 - 96 = 6882$ (S) · $11986 - 4064 = 7922$ (G) · $12842 - 4340 = 8502$ (Y) · $9327 - 1628 = 7699$ (W) · $9384 - 1951 = 7433$ (U) · $8534 - 1475 = 7059$ (B) · $9654 - 3051 = 6603$ (R)

Clue 4 (Multiplication facts (1-12)): "THE AGENT LEFT FLAMING RED HAIR AT THE SCENE"

$1 \times 11 = 11$ (T) · $12 \times 12 = 144$ (F) · $8 \times 12 = 96$ (G) · $9 \times 1 = 9$ (I) · $10 \times 5 = 50$ (E) · $11 \times 8 = 88$ (N) · $12 \times 9 = 108$ (D) · $7 \times 6 = 42$ (S) · $12 \times 5 = 60$ (A) · $6 \times 9 = 54$ (H) · $8 \times 9 = 72$ (L) · $12 \times 3 = 36$ (M) · $7 \times 3 = 21$ (R) · $11 \times 4 = 44$ (C)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Sam

$45 \div 9 = 5$ · $8 \div 4 = 2$ · $48 \div 12 = 4$ · $1 \div 1 = 1$ · $120 \div 12 = 10$ · $18 \div 2 = 9$ · $15 \div 5 = 3$ · $60 \div 10 = 6$ · $96 \div 12 = 8$ · $36 \div 3 = 12$ · $84 \div 12 = 7$