



The Secret Toy Lab Mystery

Grade 6 math · Place value, Subtraction, Multiplication, Addition, Division · Reading level grades 1-2

Detective: _____ Date: _____

Oh no! A rogue agent took the Golden Laser Yo-Yo. The Spy Toy Lab is in trouble. We must find the thief.

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	SUPER GADGET	SECRET TOOL	ACTIVE GLOVE	SPY HELMET COLOR	TOY DISTRACTION
Pip	Hover Boots	Pocket Glider	Left Glove On	Bright Red Helmet	Squeaky Toy Duck
Mia	Bubble Shield	Decoder Glasses	Right Glove On	Bright Red Helmet	Wind Up Mouse
Sam	Laser Watch	Decoder Glasses	Left Glove On	Neon Blue Helmet	Bouncing Red Ball
Zac	Super Suction Cup	Sticky Glove	Right Glove On	Neon Blue Helmet	Squeaky Toy Duck
Mac	Spy Drone	Sticky Glove	Right Glove On	Bright Red Helmet	Squeaky Toy Duck
Fin	Hover Boots	Decoder Glasses	Right Glove On	Bright Red Helmet	Bouncing Red Ball
Roy	Bubble Shield	Decoder Glasses	Left Glove On	Forest Green Helmet	Squeaky Toy Duck
Ben	Hover Boots	Decoder Glasses	Left Glove On	Bright Red Helmet	Bouncing Red Ball
Gus	Spy Drone	Pocket Glider	Left Glove On	Forest Green Helmet	Squeaky Toy Duck
Eli	Super Suction Cup	Sticky Glove	Left Glove On	Bright Red Helmet	Squeaky Toy Duck
Max	Super Suction Cup	Decoder Glasses	Left Glove On	Bright Red Helmet	Squeaky Toy Duck
Rex	Laser Watch	Grapple Hook	Right Glove On	Neon Blue Helmet	Bouncing Red Ball
Zoe	Super Suction Cup	Sonar Mic	Left Glove On	Forest Green Helmet	Wind Up Mouse
Jax	Spy Drone	Decoder Glasses	Left Glove On	Bright Red Helmet	Wind Up Mouse
Ned	Laser Watch	Sticky Glove	Right Glove On	Bright Red Helmet	Bouncing Red Ball
Dan	Hover Boots	Sonar Mic	Left Glove On	Bright Red Helmet	Squeaky Toy Duck
Kat	Hover Boots	Grapple Hook	Right Glove On	Forest Green Helmet	Bouncing Red Ball
Joy	Bubble Shield	Sonar Mic	Right Glove On	Bright Red Helmet	Squeaky Toy Duck
Sky	Bubble Shield	Pocket Glider	Left Glove On	Forest Green Helmet	Bouncing Red Ball
Leo	Laser Watch	Grapple Hook	Left Glove On	Forest Green Helmet	Bouncing Red Ball
Ava	Laser Watch	Decoder Glasses	Left Glove On	Bright Red Helmet	Squeaky Toy Duck

CLUE 1 Place value

Agent Spark looks at the keypad. The secret numbers have special spots. We must check the place value.

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

T			T											T				
6000	30	300	6000	30	1000	300	200	3000	400	300	50	900	400	6000	10	50	300	7000

	T									
50	6000	1000	20	600	90	40	5000	400	9000	300

What is the value of the 6 in 446,599? → **T**

What is the value of the 9 in 764,912? → **N**

What is the value of the 3 in 540,732? → **H**

What is the value of the 1 in 51,762? → **I**

What is the value of the 6 in 89,608? → **K**

What is the value of the 3 in 423,752? → **D**

What is the value of the 1 in 735,710? → **U**

What is the value of the 4 in 18,495? → **O**

What is the value of the 5 in 965,006? → **L**

What is the value of the 9 in 489,655? → **V**

What is the value of the 7 in 47,993? → **A**

What is the value of the 2 in 550,249? → **F**

What is the value of the 4 in 793,642? → **G**

What is the value of the 2 in 971,829? → **C**

What is the value of the 5 in 37,252? → **S**

What is the value of the 3 in 445,372? → **E**

What is the value of the 9 in 687,090? → **Y**

Scratch space:

CLUE 2

Subtraction

The team finds a box of spy badges. Some badges are missing. Let us subtract to find how many.

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

T															
2281	1167	5950	2598	5950	7754	2281	1167	6259	6615	3610	6831	2598	7035	6118	5950

2598	5950	7754	2281	6259	3085	2598	5950	6259	6615	8246	4014	5372	6615	2281

$6884 - 4603 = \square \rightarrow \text{T}$

$5698 - 1684 = \square \rightarrow \text{R}$

$5388 - 1778 = \square \rightarrow \text{D}$

$10955 - 2709 = \square \rightarrow \text{P}$

$9630 - 3680 = \square \rightarrow \text{E}$

$7359 - 1987 = \square \rightarrow \text{I}$

$10738 - 4620 = \square \rightarrow \text{V}$

$4967 - 1882 = \square \rightarrow \text{C}$

$5687 - 4520 = \square \rightarrow \text{H}$

$9523 - 2692 = \square \rightarrow \text{G}$

$2672 - 74 = \square \rightarrow \text{L}$

$10941 - 3906 = \square \rightarrow \text{O}$

$11525 - 3771 = \square \rightarrow \text{F}$

$8080 - 1465 = \square \rightarrow \text{N}$

$6855 - 596 = \square \rightarrow \text{A}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

We see rows of laser pens on the wall. They make a grid. We multiply the rows to count them fast.

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

T											T							T	
25	54	99	108	72	48	48	55	72	96	100	25	30	32	32	99	120	25	30	

100	45	1	99	55	66	55	120	1	132	66									

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

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

$6 \times 11 = \square \rightarrow \boxed{\text{K}}$

$12 \times 4 = \square \rightarrow \boxed{\text{L}}$

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

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

$12 \times 10 = \square \rightarrow \boxed{\text{D}}$

$1 \times 1 = \square \rightarrow \boxed{\text{U}}$

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

$12 \times 11 = \square \rightarrow \boxed{\text{C}}$

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

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

$5 \times 11 = \square \rightarrow \boxed{\text{A}}$

$5 \times 9 = \square \rightarrow \boxed{\text{Q}}$

$4 \times 8 = \square \rightarrow \boxed{\text{P}}$

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

Scratch space:

CLUE 4 Addition

The crew brings all their secret maps together. We add them up to make one big spy map.

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

W															
3063	6771	2128	8852	3638	9234	5687	7511	6771	5687	9788	6771	5278	3895	6771	7567
9237	4462	5968	9234	7567	8852	9234	7567	9788	6771	5687	8852	8852	7511		

$1993 + 1070 = \square \rightarrow \text{W}$

$4938 + 2629 = \square \rightarrow \text{T}$

$1287 + 841 = \square \rightarrow \text{F}$

$5157 + 4077 = \square \rightarrow \text{N}$

$2478 + 1160 = \square \rightarrow \text{U}$

$3626 + 2061 = \square \rightarrow \text{D}$

$3374 + 3397 = \square \rightarrow \text{E}$

$1838 + 2057 = \square \rightarrow \text{M}$

$2636 + 2642 = \square \rightarrow \text{L}$

$2861 + 6376 = \square \rightarrow \text{P}$

$2015 + 3953 = \square \rightarrow \text{I}$

$2338 + 2124 = \square \rightarrow \text{A}$

$4181 + 5607 = \square \rightarrow \text{H}$

$2307 + 5204 = \square \rightarrow \text{R}$

$4087 + 4765 = \square \rightarrow \text{O}$

Scratch space:

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

We have a pile of shiny spy rings. We must share them equally. We divide them among the team.

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:

$9 \div 9 = \boxed{}$

$14 \div 7 = \boxed{}$

$36 \div 9 = \boxed{}$

$32 \div 4 = \boxed{}$

$120 \div 10 = \boxed{}$

$45 \div 5 = \boxed{}$

$21 \div 7 = \boxed{}$

$45 \div 9 = \boxed{}$

$22 \div 2 = \boxed{}$

$40 \div 4 = \boxed{}$

$14 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain zoomed past the guards on hover boots, then escaped out the window using a pocket glider.
2. The villain climbed up the tall wall with suction cups, then read the secret code with decoder glasses.
3. The villain zapped the main lock with a laser watch, then zipped up to the high ceiling on a grapple hook.
4. The villain zoomed past the guards on hover boots, then listened to the safe clicks with a sonar mic.
5. The villain climbed up the tall wall with suction cups, then zipped up to the high ceiling on a grapple hook.
6. The villain zapped the main lock with a laser watch, then read the secret code with decoder glasses.
7. The villain climbed up the tall wall with suction cups, then grabbed the shiny prize with a sticky glove.
8. The villain zapped the main lock with a laser watch, then listened to the safe clicks with a sonar mic.
9. The villain zoomed past the guards on hover boots, then grabbed the shiny prize with a sticky glove.
10. The villain zapped the main lock with a laser watch, then escaped out the window using a pocket glider.
11. The villain flew a spy drone into the vault room, then escaped out the window using a pocket glider.
12. The villain zoomed past the guards on hover boots, then zipped up to the high ceiling on a grapple hook.

Answer Key

The Secret Toy Lab Mystery

Culprit: Ava

Laser Watch · Decoder Glasses · Left Glove On · Bright Red Helmet · Squeaky Toy Duck

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE A STICKY GLOVE"

What is the value of the 6 in 446,599? = 6000 (T) · What is the value of the 9 in 764,912? = 900 (N) · What is the value of the 3 in 540,732? = 30 (H) · What is the value of the 1 in 51,762? = 1000 (I) · What is the value of the 6 in 89,608? = 600 (K) · What is the value of the 3 in 423,752? = 3000 (D) · What is the value of the 1 in 735,710? = 10 (U) · What is the value of the 4 in 18,495? = 400 (O) · What is the value of the 5 in 965,006? = 5000 (L) · What is the value of the 9 in 489,655? = 9000 (V) · What is the value of the 7 in 47,993? = 7000 (A) · What is the value of the 2 in 550,249? = 200 (F) · What is the value of the 4 in 793,642? = 40 (G) · What is the value of the 2 in 971,829? = 20 (C) · What is the value of the 5 in 37,252? = 50 (S) · What is the value of the 3 in 445,372? = 300 (E) · What is the value of the 9 in 687,090? = 90 (Y)

Clue 2 (Subtraction): "THE LEFT HAND GLOVE LEFT A CLEAN PRINT"

6884 - 4603 = 2281 (T) · 5698 - 1684 = 4014 (R) · 5388 - 1778 = 3610 (D) · 10955 - 2709 = 8246 (P) · 9630 - 3680 = 5950 (E) · 7359 - 1987 = 5372 (I) · 10738 - 4620 = 6118 (V) · 4967 - 1882 = 3085 (C) · 5687 - 4520 = 1167 (H) · 9523 - 2692 = 6831 (G) · 2672 - 74 = 2598 (L) · 10941 - 3906 = 7035 (O) · 11525 - 3771 = 7754 (F) · 8080 - 1465 = 6615 (N) · 6855 - 596 = 6259 (A)

Clue 3 (Multiplication facts (1-12)): "THE VILLAIN STOPPED TO SQUEAK A DUCK"

5 × 5 = 25 (T) · 11 × 9 = 99 (E) · 6 × 11 = 66 (K) · 12 × 4 = 48 (L) · 9 × 6 = 54 (H) · 5 × 6 = 30 (O) · 12 × 10 = 120 (D) · 1 × 1 = 1 (U) · 9 × 12 = 108 (V) · 12 × 11 = 132 (C) · 8 × 12 = 96 (N) · 10 × 10 = 100 (S) · 5 × 11 = 55 (A) · 5 × 9 = 45 (Q) · 4 × 8 = 32 (P) · 12 × 6 = 72 (I)

Clue 4 (Addition): "WE FOUND RED HELMET PAINT ON THE DOOR"

1993 + 1070 = 3063 (W) · 4938 + 2629 = 7567 (T) · 1287 + 841 = 2128 (F) · 5157 + 4077 = 9234 (N) · 2478 + 1160 = 3638 (U) · 3626 + 2061 = 5687 (D) · 3374 + 3397 = 6771 (E) · 1838 + 2057 = 3895 (M) · 2636 + 2642 = 5278 (L) · 2861 + 6376 = 9237 (P) · 2015 + 3953 = 5968 (I) · 2338 + 2124 = 4462 (A) · 4181 + 5607 = 9788 (H) · 2307 + 5204 = 7511 (R) · 4087 + 4765 = 8852 (O)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Ava

9 ÷ 9 = 1 · 14 ÷ 7 = 2 · 36 ÷ 9 = 4 · 32 ÷ 4 = 8 · 120 ÷ 10 = 12 · 45 ÷ 5 = 9 · 21 ÷ 7 = 3 · 45 ÷ 9 = 5 · 22 ÷ 2 = 11 · 40 ÷ 4 = 10 · 14 ÷ 2 = 7