



The Mystery of the Missing Secret Decoder Ring

Grade 3 math · Rounding, Addition, Subtraction, Multiplication, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Oh no! Someone snuck into the high branches of our canopy clubhouse and snatched the legendary Gold Decoder Ring! Our team of junior detectives needs to search for clues, check the suspect list, and find out who took it before sunset.

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 The Phantom Prankster is _____

Possible suspects

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

NAME	CLUB BADGE	SECRET TOOL	WRITING HAND	CAP COLOR	FAVORITE SNACK
Leo	Golden Binoculars	Laser Pointer	Right-handed	Neon Blue Cap	Cheese Crackers
Cody	Ruby Magnifier	Walkie Talkie	Right-handed	Forest Green Cap	Apple Slices
Ryan	Emerald Whistle	Super Flashlight	Right-handed	Bright Red Cap	Cheese Crackers
Lily	Golden Binoculars	Invisible Ink	Left-handed	Bright Red Cap	Maple Popcorn
Ella	Bronze Key	Invisible Ink	Right-handed	Bright Red Cap	Cheese Crackers
Max	Ruby Magnifier	Invisible Ink	Right-handed	Bright Red Cap	Cheese Crackers
Ruby	Silver Compass	Invisible Ink	Right-handed	Forest Green Cap	Maple Popcorn
Noah	Golden Binoculars	Walkie Talkie	Right-handed	Neon Blue Cap	Cheese Crackers
Ben	Silver Compass	Invisible Ink	Left-handed	Bright Red Cap	Cheese Crackers
Emma	Ruby Magnifier	Pocket Periscope	Right-handed	Bright Red Cap	Maple Popcorn
Owen	Emerald Whistle	Walkie Talkie	Left-handed	Forest Green Cap	Maple Popcorn
Finn	Bronze Key	Super Flashlight	Right-handed	Neon Blue Cap	Cheese Crackers
Luke	Bronze Key	Super Flashlight	Right-handed	Neon Blue Cap	Apple Slices
Sam	Silver Compass	Laser Pointer	Right-handed	Bright Red Cap	Cheese Crackers
Jake	Golden Binoculars	Pocket Periscope	Right-handed	Bright Red Cap	Cheese Crackers
Mia	Emerald Whistle	Invisible Ink	Right-handed	Forest Green Cap	Apple Slices
Lola	Emerald Whistle	Super Flashlight	Left-handed	Forest Green Cap	Cheese Crackers
Maya	Golden Binoculars	Super Flashlight	Left-handed	Forest Green Cap	Maple Popcorn
Sofi	Silver Compass	Invisible Ink	Right-handed	Forest Green Cap	Apple Slices
Toby	Silver Compass	Walkie Talkie	Left-handed	Bright Red Cap	Apple Slices
Jack	Golden Binoculars	Invisible Ink	Left-handed	Bright Red Cap	Cheese Crackers

CLUE 1 Rounding

The radar on our spy gadget shows the suspect's escape distance, but the screen only displays numbers rounded to the nearest ten.

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

T									T										T
40	50	2000	5000	90	60	4000	6000	80	40	2000	90	700	20	2000	80	4000	20	40	

														T		
500	80	2000	60	600	60	80	2000	90	5000	20	70	4000	40	2000	90	

Round 37 to the nearest ten →

T

Round 659 to the nearest hundred →

D

Round 5,567 to the nearest thousand →

K

Round 2,046 to the nearest thousand →

E

Round 5,348 to the nearest thousand →

P

Round 60 to the nearest ten →

A

Round 51 to the nearest ten →

H

Round 67 to the nearest ten →

I

Round 79 to the nearest ten →

S

Round 615 to the nearest hundred →

L

Round 502 to the nearest hundred →

U

Round 23 to the nearest ten →

O

Round 91 to the nearest ten →

R

Round 4,098 to the nearest thousand →

N

Scratch space:

CLUE 2 Addition

We searched the treehouse yard and added up all the dropped magnifying glasses we found in the grass.

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

T 256	369	297	737	831	737	871	297	336	T 256	837	866	201	T 256	297	T 256	369	297
374	201	T 256	297	837	602	T 256	369	T 256	369	297	866	602	417	369	T 256		
369	433	374	229														

$167 + 89 = \boxed{} \rightarrow \boxed{\text{T}}$

$526 + 340 = \boxed{} \rightarrow \boxed{\text{R}}$

$481 + 256 = \boxed{} \rightarrow \boxed{\text{S}}$

$170 + 127 = \boxed{} \rightarrow \boxed{\text{E}}$

$466 + 405 = \boxed{} \rightarrow \boxed{\text{P}}$

$212 + 157 = \boxed{} \rightarrow \boxed{\text{H}}$

$565 + 266 = \boxed{} \rightarrow \boxed{\text{U}}$

$191 + 226 = \boxed{} \rightarrow \boxed{\text{G}}$

$130 + 303 = \boxed{} \rightarrow \boxed{\text{A}}$

$87 + 114 = \boxed{} \rightarrow \boxed{\text{O}}$

$363 + 239 = \boxed{} \rightarrow \boxed{\text{I}}$

$331 + 506 = \boxed{} \rightarrow \boxed{\text{W}}$

$157 + 217 = \boxed{} \rightarrow \boxed{\text{N}}$

$176 + 160 = \boxed{} \rightarrow \boxed{\text{C}}$

$93 + 136 = \boxed{} \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 3

Subtraction

We counted the clubhouse snack bags and subtracted the empty ones to see how many were left behind.

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

W														
311	167	414	799	435	804	804	167	467	435	382	508	282	159	167

243	596	167	167	414	167	243	382	508	243	823	167	382	467	290

$348 - 37 = \square \rightarrow \boxed{\text{W}}$

$419 - 260 = \square \rightarrow \boxed{\text{G}}$

$520 - 12 = \square \rightarrow \boxed{\text{A}}$

$364 - 197 = \square \rightarrow \boxed{\text{E}}$

$834 - 367 = \square \rightarrow \boxed{\text{D}}$

$1056 - 257 = \square \rightarrow \boxed{\text{P}}$

$473 - 183 = \square \rightarrow \boxed{\text{U}}$

$840 - 36 = \square \rightarrow \boxed{\text{T}}$

$654 - 272 = \square \rightarrow \boxed{\text{R}}$

$592 - 157 = \square \rightarrow \boxed{\text{O}}$

$1005 - 182 = \square \rightarrow \boxed{\text{K}}$

$396 - 153 = \square \rightarrow \boxed{\text{C}}$

$583 - 169 = \square \rightarrow \boxed{\text{S}}$

$937 - 341 = \square \rightarrow \boxed{\text{H}}$

$558 - 276 = \square \rightarrow \boxed{\text{N}}$

Scratch space:

Multiplication facts (1-12)

We saw rows of muddy footprints near the secret hatch and multiplied the rows to get the total count.

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

Diagram illustrating a sequence of numbers arranged in two rows. The top row contains 15 boxes, and the bottom row contains 12 boxes. Some boxes are shaded orange and contain the letter 'A'.

Top row (15 boxes):

- Box 1: Shaded orange, contains 'A'. Below it is the number 24.
- Box 2: Below it is the number 15.
- Box 3: Below it is the number 110.
- Box 4: Below it is the number 16.
- Box 5: Below it is the number 70.
- Box 6: Below it is the number 1.
- Box 7: Below it is the number 90.
- Box 8: Below it is the number 110.
- Box 9: Below it is the number 25.
- Box 10: Below it is the number 12.
- Box 11: Below it is the number 90.
- Box 12: Below it is the number 1.
- Box 13: Below it is the number 110.
- Box 14: Shaded orange, contains 'A'. Below it is the number 25.
- Box 15: Below it is the number 12.

Bottom row (12 boxes):

- Box 1: Below it is the number 27.
- Box 2: Below it is the number 25.
- Box 3: Below it is the number 8.
- Box 4: Below it is the number 90.
- Box 5: Below it is the number 96.
- Box 6: Below it is the number 66.
- Box 7: Below it is the number 90.
- Box 8: Below it is the number 1.
- Box 9: Below it is the number 25.
- Box 10: Below it is the number 27.
- Box 11: Shaded orange, contains 'A'. Below it is the number 24.
- Box 12: Below it is the number 12.

$2 \times 12 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$2 \times 4 = \boxed{} \rightarrow \boxed{\text{F}}$

$12 \times 8 = \boxed{} \rightarrow \boxed{0}$

$5 \times 5 = \square \rightarrow \boxed{\mathbf{E}}$

$10 \times 9 = \boxed{} \rightarrow \boxed{\text{T}}$

$10 \times 11 = \boxed{} \rightarrow \boxed{\text{R}}$

$11 \times 6 = \square \rightarrow \mathbf{N}$

$9 \times 3 = \square \rightarrow \boxed{\text{L}}$

$2 \times 2 = \square \rightarrow \boxed{\mathbf{S}}$

$$2 \times 8 = \boxed{} \rightarrow \boxed{1}$$

$$1 \times 1 = \boxed{} \rightarrow \boxed{\text{H}}$$

$3 \times 5 = \square \rightarrow \boxed{\mathbf{B}}$

$3 \times 7 = \square \rightarrow \boxed{W}$

$10 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$6 \times 2 = \boxed{} \rightarrow \boxed{\text{D}}$

Scratch space:

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

We split the recovered walkie talkie batteries equally among our team members to figure out the share.

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:

$64 \div 8 = \boxed{}$

$11 \div 1 = \boxed{}$

$50 \div 5 = \boxed{}$

$132 \div 11 = \boxed{}$

$81 \div 9 = \boxed{}$

$8 \div 8 = \boxed{}$

$30 \div 5 = \boxed{}$

$27 \div 9 = \boxed{}$

$2 \div 1 = \boxed{}$

$77 \div 11 = \boxed{}$

$10 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain shined their Ruby Magnifier on the clues, then lit up the dark room with a Super Flashlight.
2. The villain blew their Emerald Whistle to distract us, then whispered a secret code into a Walkie Talkie.
3. The villain shined their Ruby Magnifier on the clues, then peeked around the wooden corner with a Pocket Periscope.
4. The villain blew their Emerald Whistle to distract us, then lit up the dark room with a Super Flashlight.
5. The villain used their Golden Binoculars to spot the guard, then lit up the dark room with a Super Flashlight.
6. The villain turned their Bronze Key in the secret lock, then lit up the dark room with a Super Flashlight.
7. The villain shined their Ruby Magnifier on the clues, then aimed a bright green Laser Pointer.
8. The villain shined their Ruby Magnifier on the clues, then wrote a message using Invisible Ink.
9. The villain used their Golden Binoculars to spot the guard, then wrote a message using Invisible Ink.
10. The villain used their Golden Binoculars to spot the guard, then peeked around the wooden corner with a Pocket Periscope.
11. The villain turned their Bronze Key in the secret lock, then wrote a message using Invisible Ink.
12. The villain blew their Emerald Whistle to distract us, then peeked around the wooden corner with a Pocket Periscope.

Answer Key

The Mystery of the Missing Secret Decoder Ring

Culprit: Ryan

Emerald Whistle · Super Flashlight · Right-handed · Bright Red Cap · Cheese Crackers

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE PRANKSTER DOES NOT USE A LASER POINTER"

Round 37 to the nearest ten = 40 (T) · Round 659 to the nearest hundred = 700 (D) · Round 5,567 to the nearest thousand = 6000 (K) · Round 2,046 to the nearest thousand = 2000 (E) · Round 5,348 to the nearest thousand = 5000 (P) · Round 60 to the nearest ten = 60 (A) · Round 51 to the nearest ten = 50 (H) · Round 67 to the nearest ten = 70 (I) · Round 79 to the nearest ten = 80 (S) · Round 615 to the nearest hundred = 600 (L) · Round 502 to the nearest hundred = 500 (U) · Round 23 to the nearest ten = 20 (O) · Round 91 to the nearest ten = 90 (R) · Round 4,098 to the nearest thousand = 4000 (N)

Clue 2 (Addition): "THE SUSPECT WROTE THE NOTE WITH THE RIGHT HAND"

$167 + 89 = 256$ (T) · $526 + 340 = 866$ (R) · $481 + 256 = 737$ (S) · $170 + 127 = 297$ (E) · $466 + 405 = 871$ (P) · $212 + 157 = 369$ (H) · $565 + 266 = 831$ (U) · $191 + 226 = 417$ (G) · $130 + 303 = 433$ (A) · $87 + 114 = 201$ (O) · $363 + 239 = 602$ (I) · $331 + 506 = 837$ (W) · $157 + 217 = 374$ (N) · $176 + 160 = 336$ (C) · $93 + 136 = 229$ (D)

Clue 3 (Subtraction): "WE SPOTTED ORANGE CHEESE CRACKER DUST"

$348 - 37 = 311$ (W) · $419 - 260 = 159$ (G) · $520 - 12 = 508$ (A) · $364 - 197 = 167$ (E) · $834 - 367 = 467$ (D) · $1056 - 257 = 799$ (P) · $473 - 183 = 290$ (U) · $840 - 36 = 804$ (T) · $654 - 272 = 382$ (R) · $592 - 157 = 435$ (O) · $1005 - 182 = 823$ (K) · $396 - 153 = 243$ (C) · $583 - 169 = 414$ (S) · $937 - 341 = 596$ (H) · $558 - 276 = 282$ (N)

Clue 4 (Multiplication facts (1-12)): "A BRIGHT RED THREAD WAS LEFT ON THE LADDER"

$2 \times 12 = 24$ (A) · $2 \times 4 = 8$ (F) · $12 \times 8 = 96$ (O) · $5 \times 5 = 25$ (E) · $10 \times 9 = 90$ (T) · $10 \times 11 = 110$ (R) · $11 \times 6 = 66$ (N) · $9 \times 3 = 27$ (L) · $2 \times 2 = 4$ (S) · $2 \times 8 = 16$ (I) · $1 \times 1 = 1$ (H) · $3 \times 5 = 15$ (B) · $3 \times 7 = 21$ (W) · $10 \times 7 = 70$ (G) · $6 \times 2 = 12$ (D)

Clue 5 (Division facts (1-12)): surviving statement is box 4 → Ryan

$64 \div 8 = 8$ · $11 \div 1 = 11$ · $50 \div 5 = 10$ · $132 \div 11 = 12$ · $81 \div 9 = 9$ · $8 \div 8 = 1$ · $30 \div 5 = 6$ · $27 \div 9 = 3$ · $2 \div 1 = 2$ · $77 \div 11 = 7$ · $10 \div 2 = 5$