

The Great Treehouse Mystery

Grade 1 math · Addition, Subtraction, Skip counting, Place value, Missing addends · Reading level grades 1-2

Detective: _____ Date: _____

Someone took our Golden Binoculars from the treehouse! We must follow the footprints in the mud to find who did it. Let us solve the clues together.

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 Secret Prankster is _____

Possible suspects

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

NAME	SPECIAL GEAR	ADVENTURE BADGE	WRITING HAND	CAP COLOR	SILLY FEAR
Meg	spy glass	tent badge	righty grip	red cap	scared of spiders
Ruby	walkie talkie	rope badge	righty grip	green cap	scared of frogs
Sam	decoder ring	rope badge	righty grip	green cap	scared of frogs
Rex	walkie talkie	fire badge	righty grip	red cap	scared of frogs
Zoe	spy glass	fire badge	righty grip	red cap	scared of frogs
Max	decoder ring	map badge	lefty grip	blue cap	scared of shadows
Luke	decoder ring	star badge	righty grip	green cap	scared of frogs
Joy	decoder ring	fire badge	lefty grip	green cap	scared of frogs
Toby	flashlight	map badge	righty grip	green cap	scared of spiders
Abby	spy glass	fire badge	lefty grip	red cap	scared of shadows
Leo	walkie talkie	tent badge	righty grip	red cap	scared of frogs
Amy	walkie talkie	tent badge	righty grip	green cap	scared of frogs
Ned	decoder ring	star badge	lefty grip	green cap	scared of spiders
Dan	climbing rope	rope badge	righty grip	blue cap	scared of shadows
Mia	climbing rope	rope badge	lefty grip	blue cap	scared of spiders
Roy	spy glass	tent badge	lefty grip	red cap	scared of spiders
Jon	spy glass	rope badge	lefty grip	red cap	scared of frogs
Lily	decoder ring	map badge	lefty grip	green cap	scared of shadows
Ben	walkie talkie	map badge	righty grip	green cap	scared of frogs
Emma	walkie talkie	star badge	lefty grip	red cap	scared of frogs
Jake	flashlight	star badge	righty grip	red cap	scared of shadows

CLUE 1 Addition

We found a pile of map pins. Let us count how many red ones and blue ones we have in total.

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

T																T
16	13	6	18	2	10	10	11	2	3	8	7	6	9	3	7	16

				T			T			T					
13	11	18	6	16	13	6	16	6	3	16	4	11	8	15	6

$11 + 5 = \square \rightarrow$ T	$1 + 2 = \square \rightarrow$ N	$7 + 4 = \square \rightarrow$ A	
$8 + 10 = \square \rightarrow$ V	$2 + 7 = \square \rightarrow$ S	$5 + 2 = \square \rightarrow$ O	
$4 + 11 = \square \rightarrow$ G	$1 + 5 = \square \rightarrow$ E	$2 + 2 = \square \rightarrow$ B	$1 + 1 = \square \rightarrow$ I
$4 + 6 = \square \rightarrow$ L	$3 + 10 = \square \rightarrow$ H	$3 + 5 = \square \rightarrow$ D	

Scratch space:

CLUE 2

Subtraction

We had some juice boxes, but some got drank. Let us subtract to see how many are left.

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

T								T								T		
12	16	10	14	16	10	7	11	12	16	10	15	10	17	2	1	12	16	6

				T					
9	1	18	16	12	14	18	9	1	15

$17 - 5 = \square \rightarrow \text{[T]}$

$9 - 3 = \square \rightarrow \text{[A]}$

$18 - 8 = \square \rightarrow \text{[E]}$

$7 - 6 = \square \rightarrow \text{[I]}$

$16 - 1 = \square \rightarrow \text{[P]}$

$11 - 2 = \square \rightarrow \text{[R]}$

$20 - 2 = \square \rightarrow \text{[G]}$

$19 - 2 = \square \rightarrow \text{[N]}$

$17 - 6 = \square \rightarrow \text{[D]}$

$15 - 8 = \square \rightarrow \text{[L]}$

$7 - 5 = \square \rightarrow \text{[W]}$

$16 - 2 = \square \rightarrow \text{[Y]}$

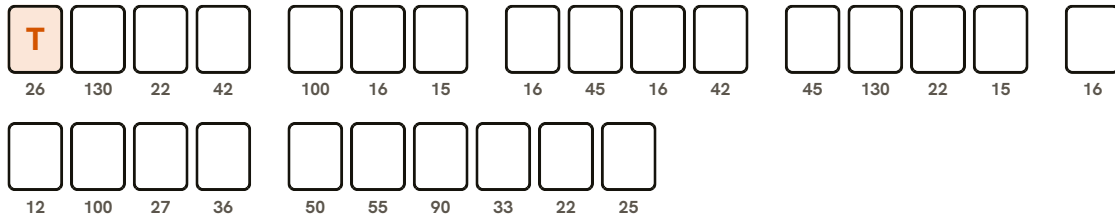
$17 - 1 = \square \rightarrow \text{[H]}$

Scratch space:

CLUE 3 Skip counting

Look at the rows of muddy boot prints. Let us count them by twos to follow the path.

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



Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **T**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 → **G**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 → **M**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **Y**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **O**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **A**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **P**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **R**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, __, 60, 70 → **J**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 → **U**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **D**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 → **F**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **W**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 → **H**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **E**

Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 → **N**

Scratch space:

CLUE 4 Place value

The secret code box has a screen showing tens and ones. Let us find the real number.

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

W															
77	73	19	68	24	22	33	95	46	94	73	73	22	91	95	93

19	50	70	73	94	49	73	94	73

What number has 7 tens and 7 ones? → **W**

What number has 9 tens and 3 ones? → **P**

What number has 2 tens and 4 ones? → **U**

What number has 6 tens and 8 ones? → **O**

What number has 2 tens and 2 ones? → **N**

What number has 7 tens and 3 ones? → **E**

What number has 5 tens and 0 ones? → **I**

What number has 4 tens and 9 ones? → **H**

What number has 3 tens and 3 ones? → **D**

What number has 7 tens and 0 ones? → **B**

What number has 4 tens and 6 ones? → **G**

What number has 9 tens and 1 one? → **C**

What number has 9 tens and 5 ones? → **A**

What number has 9 tens and 4 ones? → **R**

What number has 1 ten and 9 ones? → **F**

Scratch space:

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

The badge box holds ten badges. Some are missing. Let us find how many we need to fill it.

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:

$9 + \underline{\quad} = 17$

$4 + \underline{\quad} = 15$

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

$10 + \underline{\quad} = 15$

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

$1 + \underline{\quad} = 10$

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

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

$1 + \underline{\quad} = 2$

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

$8 + \underline{\quad} = 18$

Step 2 - cross out the sentence with each answer:

1. The villain shines a flashlight around, then polishes a rope badge.
2. The villain talks on a walkie talkie, then polishes a rope badge.
3. The villain talks on a walkie talkie, then hides a tent badge.
4. The villain shines a flashlight around, then hides a tent badge.
5. The villain peers into a spy glass, then shows off a fire badge.
6. The villain shines a flashlight around, then pins on a map badge.
7. The villain throws a climbing rope, then pins on a map badge.
8. The villain looks through a decoder ring, then polishes a rope badge.
9. The villain looks through a decoder ring, then shows off a fire badge.
10. The villain peers into a spy glass, then hides a tent badge.
11. The villain talks on a walkie talkie, then pins on a map badge.
12. The villain looks through a decoder ring, then taps a star badge.

Answer Key

The Great Treehouse Mystery

Culprit: Luke

decoder ring · star badge · righty grip · green cap · scared of frogs

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT HAVE THE TENT BADGE"

$11 + 5 = 16$ (T) · $1 + 2 = 3$ (N) · $7 + 4 = 11$ (A) · $8 + 10 = 18$ (V) · $2 + 7 = 9$ (S) · $5 + 2 = 7$ (O) · $4 + 11 = 15$ (G) · $1 + 5 = 6$ (E) · $2 + 2 = 4$ (B) · $1 + 1 = 2$ (I) · $4 + 6 = 10$ (L) · $3 + 10 = 13$ (H) · $3 + 5 = 8$ (D)

Clue 2 (Subtraction): "THEY HELD THE PEN WITH A RIGHTY GRIP"

$17 - 5 = 12$ (T) · $9 - 3 = 6$ (A) · $18 - 8 = 10$ (E) · $7 - 6 = 1$ (I) · $16 - 1 = 15$ (P) · $11 - 2 = 9$ (R) · $20 - 2 = 18$ (G) · $19 - 2 = 17$ (N) · $17 - 6 = 11$ (D) · $15 - 8 = 7$ (L) · $7 - 5 = 2$ (W) · $16 - 2 = 14$ (Y) · $17 - 1 = 16$ (H)

Clue 3 (Skip counting): "THEY RAN AWAY WHEN A FROG JUMPED"

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (T) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 = 36 (G) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 = 90 (M) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (P) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (R) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, __, 60, 70 = 50 (J) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 = 55 (U) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (D) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (F) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (W) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (E) · Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 = 15 (N)

Clue 4 (Place value): "WE FOUND A GREEN CAP FIBER HERE"

What number has 7 tens and 7 ones? = 77 (W) · What number has 9 tens and 3 ones? = 93 (P) · What number has 2 tens and 4 ones? = 24 (U) · What number has 6 tens and 8 ones? = 68 (O) · What number has 2 tens and 2 ones? = 22 (N) · What number has 7 tens and 3 ones? = 73 (E) · What number has 5 tens and 0 ones? = 50 (I) · What number has 4 tens and 9 ones? = 49 (H) · What number has 3 tens and 3 ones? = 33 (D) · What number has 7 tens and 0 ones? = 70 (B) · What number has 4 tens and 6 ones? = 46 (G) · What number has 9 tens and 1 one? = 91 (C) · What number has 9 tens and 5 ones? = 95 (A) · What number has 9 tens and 4 ones? = 94 (R) · What number has 1 ten and 9 ones? = 19 (F)

Clue 5 (Missing addends): surviving statement is box 12 → Luke

$9 + \underline{\quad} = 17 = 8$ · $4 + \underline{\quad} = 15 = 11$ · $4 + \underline{\quad} = 6 = 2$ · $10 + \underline{\quad} = 15 = 5$ · $8 + \underline{\quad} = 11 = 3$ · $1 + \underline{\quad} = 10 = 9$ · $3 + \underline{\quad} = 7 = 4$ · $2 + \underline{\quad} = 9 = 7$ · $1 + \underline{\quad} = 2 = 1$ · $8 + \underline{\quad} = 14 = 6$ · $8 + \underline{\quad} = 18 = 10$