



# The Serpent Ridge Sabotage

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 7-9

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

A masked figure compromised the expedition base camp at Serpent Ridge Ruins, disabling security field arrays and snatching sensitive ancient survey maps. Detective scouts must analyze field telemetry and track down the suspect before the rogue escapes the perimeter.

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 Scout is** \_\_\_\_\_

# Possible suspects

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

| NAME              | INFILTRATION SKILL | FIELD GEAR     | WRIST COMPASS       | HAIRSTYLE        | SENSORY VULNERABILITY |
|-------------------|--------------------|----------------|---------------------|------------------|-----------------------|
| Cartographer Iris | Sonic Whistle      | Machete Blade  | Right Wrist Compass | Wild Dreadlocks  | High Pitch Whistle    |
| Ranger Mateo      | Trap Disarming     | Machete Blade  | Left Wrist Compass  | Buzz Cut         | Bright Flashlight     |
| Surveyor Nora     | Paraglider Flight  | Smoke Bombs    | Left Wrist Compass  | Buzz Cut         | Citrus Smoke          |
| Ranger Jax        | Sonic Whistle      | Smoke Bombs    | Left Wrist Compass  | Buzz Cut         | Bright Flashlight     |
| Officer Diaz      | Sonic Whistle      | Night Goggles  | Left Wrist Compass  | Buzz Cut         | Bright Flashlight     |
| Scout Elena       | Sonic Whistle      | Machete Blade  | Right Wrist Compass | Buzz Cut         | Bright Flashlight     |
| Professor Chen    | Stealth Cloaking   | Night Goggles  | Left Wrist Compass  | Braided Ponytail | Bright Flashlight     |
| Specialist Flynn  | Sonic Whistle      | Smoke Bombs    | Right Wrist Compass | Braided Ponytail | High Pitch Whistle    |
| Analyst Quinn     | Paraglider Flight  | Grappling Hook | Left Wrist Compass  | Braided Ponytail | High Pitch Whistle    |
| Captain Vance     | Trap Disarming     | Signal Flares  | Right Wrist Compass | Wild Dreadlocks  | Bright Flashlight     |
| Commander Cross   | Stealth Cloaking   | Smoke Bombs    | Left Wrist Compass  | Braided Ponytail | Bright Flashlight     |
| Agent Sterling    | Venom Darting      | Night Goggles  | Left Wrist Compass  | Braided Ponytail | Bright Flashlight     |
| Agent Reed        | Trap Disarming     | Grappling Hook | Left Wrist Compass  | Buzz Cut         | Bright Flashlight     |
| Warden Blake      | Trap Disarming     | Night Goggles  | Left Wrist Compass  | Buzz Cut         | Bright Flashlight     |
| Engineer Omar     | Paraglider Flight  | Night Goggles  | Right Wrist Compass | Buzz Cut         | Bright Flashlight     |
| Pilot Thorne      | Paraglider Flight  | Grappling Hook | Left Wrist Compass  | Wild Dreadlocks  | Citrus Smoke          |
| Explorer Brock    | Sonic Whistle      | Grappling Hook | Left Wrist Compass  | Braided Ponytail | High Pitch Whistle    |
| Archivist Kim     | Trap Disarming     | Smoke Bombs    | Left Wrist Compass  | Wild Dreadlocks  | Bright Flashlight     |
| Tracker Maya      | Venom Darting      | Smoke Bombs    | Left Wrist Compass  | Wild Dreadlocks  | Citrus Smoke          |
| Navigator Sam     | Stealth Cloaking   | Smoke Bombs    | Right Wrist Compass | Buzz Cut         | Bright Flashlight     |
| Scout Harper      | Paraglider Flight  | Smoke Bombs    | Left Wrist Compass  | Wild Dreadlocks  | Bright Flashlight     |

## CLUE 1 Place value

At the jungle ruins entry, the digital security console displays digit positions to verify team credentials.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| T  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | T  |
| 67 | 28 | 40 | 57 | 66 | 92 | 92 | 54 | 66 | 50 | 32 | 30 | 40 | 84 | 50 | 30 | 67 |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 87 | 84 | 40 | 54 | 14 | 15 | 54 | 11 | 11 | 92 | 66 | 50 | 14 | 28 | 30 | 30 | 98 |

What number has 6 tens and 7 ones?  → **T**

What number has 8 tens and 7 ones?  → **U**

What number has 9 tens and 2 ones?  → **L**

What number has 8 tens and 4 ones?  → **S**

What number has 9 tens and 8 ones?  → **K**

What number has 1 ten and 4 ones?  → **G**

What number has 4 tens and 0 ones?  → **E**

What number has 6 tens and 6 ones?  → **I**

What number has 1 ten and 5 ones?  → **R**

What number has 2 tens and 8 ones?  → **H**

What number has 5 tens and 4 ones?  → **A**

What number has 5 tens and 7 ones?  → **V**

What number has 3 tens and 2 ones?  → **D**

What number has 3 tens and 0 ones?  → **O**

What number has 1 ten and 1 one?  → **P**

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

Scratch space:

## CLUE 2 Addition

To cross the flooded ravine, the scouts tally supply packs from both canoes to balance weight.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| T  |    |    |    |    |    |    |    |    |    | T  |    |    |    |    |    |    |    |
| 51 | 50 | 41 | 91 | 69 | 24 | 62 | 98 | 42 | 51 | 21 | 41 | 77 | 98 | 88 | 77 |    |    |
|    |    |    |    |    |    |    |    |    |    |    |    |    | T  |    |    | T  |    |
| 91 | 35 | 54 | 62 | 77 | 88 | 88 | 35 | 26 | 24 | 41 | 23 | 51 | 21 | 98 | 42 | 88 | 51 |

|                                   |                                   |                                   |
|-----------------------------------|-----------------------------------|-----------------------------------|
| $33 + 18 = \square \rightarrow$ T | $47 + 22 = \square \rightarrow$ U | $15 + 8 = \square \rightarrow$ F  |
| $14 + 12 = \square \rightarrow$ N | $20 + 15 = \square \rightarrow$ O | $34 + 28 = \square \rightarrow$ P |
| $36 + 62 = \square \rightarrow$ R | $12 + 9 = \square \rightarrow$ W  | $21 + 20 = \square \rightarrow$ E |
| $35 + 56 = \square \rightarrow$ C | $25 + 17 = \square \rightarrow$ I | $28 + 26 = \square \rightarrow$ M |
| $59 + 29 = \square \rightarrow$ S | $27 + 23 = \square \rightarrow$ H | $39 + 38 = \square \rightarrow$ A |
| $16 + 8 = \square \rightarrow$ L  |                                   |                                   |

Scratch space:

## CLUE 3

## Subtraction

Inside the ancient temple, the team calculates remaining battery power by subtracting energy consumed.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| T  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| 24 | 58 | 36 | 48 | 16 | 36 | 21 | 49 | 14 | 36 | 13 | 83 | 37 | 31 | 36 | 59 | 22 | 14 | 83 | 86 |  |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
|    |    |    |    |    |    | T  |    |    |    |    |    |    |    |    |    |    | T |
| 21 | 28 | 14 | 37 | 64 | 58 | 24 | 22 | 31 | 21 | 48 | 58 | 31 | 37 | 64 | 58 | 24 |   |

$42 - 18 = \square \rightarrow \boxed{\text{T}}$

$107 - 21 = \square \rightarrow \boxed{\text{M}}$

$32 - 4 = \square \rightarrow \boxed{\text{B}}$

$26 - 12 = \square \rightarrow \boxed{\text{R}}$

$45 - 9 = \square \rightarrow \boxed{\text{E}}$

$44 - 13 = \square \rightarrow \boxed{\text{L}}$

$45 - 23 = \square \rightarrow \boxed{\text{F}}$

$84 - 26 = \square \rightarrow \boxed{\text{H}}$

$91 - 27 = \square \rightarrow \boxed{\text{G}}$

$93 - 10 = \square \rightarrow \boxed{\text{O}}$

$69 - 10 = \square \rightarrow \boxed{\text{D}}$

$42 - 26 = \square \rightarrow \boxed{\text{N}}$

$28 - 15 = \square \rightarrow \boxed{\text{C}}$

$85 - 37 = \square \rightarrow \boxed{\text{S}}$

$36 - 15 = \square \rightarrow \boxed{\text{A}}$

$68 - 19 = \square \rightarrow \boxed{\text{K}}$

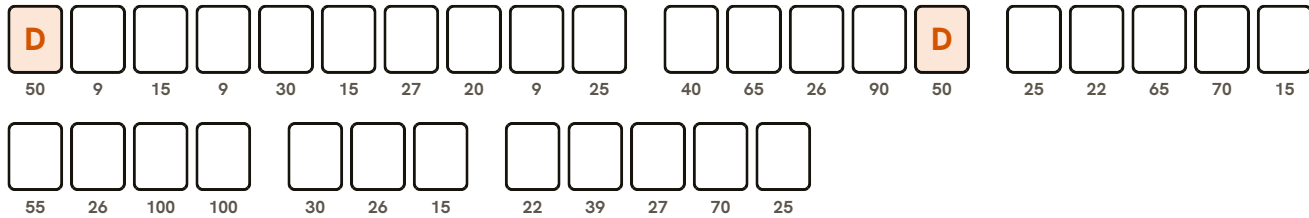
$52 - 15 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

### CLUE 4

Navigating the stone rope bridges requires stepping across marked tiles in regular skip patterns.

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



Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, \_\_, 55, 60  → **D**

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, \_\_, 30, 35  → **S**

Skip-count by 5s. Fill the blank: 5, 10, \_\_, 20, 25  → **T**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, \_\_, 33, 36  → **C**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, \_\_, 70, 75  → ☐

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, \_\_, 42, 45  → **A**

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

Skip-count by 3s. Fill the blank: 3, 6, \_\_, 12, 15  → **E**

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

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, \_\_, 80, 90  → **R**

Skip-count by 5s. Fill the blank: 5, 10, 15, \_\_, 25, 30  → **V**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, \_\_, 50, 60  → **F**

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

Scratch space:

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

Unlocking the inner sanctuary door requires finding the exact missing code number for the stone dial.

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:**

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

$10 + \underline{\quad} = 17$

$2 + \underline{\quad} = 11$

$4 + \underline{\quad} = 12$

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

$3 + \underline{\quad} = 6$

$5 + \underline{\quad} = 9$

$9 + \underline{\quad} = 10$

$10 + \underline{\quad} = 22$

$2 + \underline{\quad} = 13$

$2 + \underline{\quad} = 8$

**Step 2 - cross out the sentence with each answer:**

1. The villain activated stealth cloaking, then tossed a smoke bomb.
2. The villain blew a sonic whistle, then tossed a smoke bomb.
3. The villain deployed paraglider flight, then swung a machete blade.
4. The villain activated stealth cloaking, then swung a machete blade.
5. The villain activated stealth cloaking, then fired a signal flare.
6. The villain deployed paraglider flight, then adjusted night goggles.
7. The villain disarmed a pressure trap, then adjusted night goggles.
8. The villain disarmed a pressure trap, then tossed a smoke bomb.
9. The villain blew a sonic whistle, then adjusted night goggles.
10. The villain disarmed a pressure trap, then swung a machete blade.
11. The villain fired a venom dart, then tossed a smoke bomb.
12. The villain fired a venom dart, then launched a grappling hook.

# Answer Key

## The Serpent Ridge Sabotage

### Culprit: Ranger Mateo

Trap Disarming · Machete Blade · Left Wrist Compass · Buzz Cut · Bright Flashlight

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 9 → Clue 4 4 → Clue 5 1

#### Clue 1 (Place value): "THE VILLAIN DOES NOT USE A GRAPPLING HOOK"

What number has 6 tens and 7 ones? = 67 (T) · What number has 8 tens and 7 ones? = 87 (U) · What number has 9 tens and 2 ones? = 92 (L) · What number has 8 tens and 4 ones? = 84 (S) · What number has 9 tens and 8 ones? = 98 (K) · What number has 1 ten and 4 ones? = 14 (G) · What number has 4 tens and 0 ones? = 40 (E) · What number has 6 tens and 6 ones? = 66 (I) · What number has 1 ten and 5 ones? = 15 (R) · What number has 2 tens and 8 ones? = 28 (H) · What number has 5 tens and 4 ones? = 54 (A) · What number has 5 tens and 7 ones? = 57 (V) · What number has 3 tens and 2 ones? = 32 (D) · What number has 3 tens and 0 ones? = 30 (O) · What number has 1 ten and 1 one? = 11 (P) · What number has 5 tens and 0 ones? = 50 (N)

#### Clue 2 (Addition): "THE CULPRIT WEARS A COMPASS ON LEFT WRIST"

$33 + 18 = 51$  (T) ·  $47 + 22 = 69$  (U) ·  $15 + 8 = 23$  (F) ·  $14 + 12 = 26$  (N) ·  $20 + 15 = 35$  (O) ·  $34 + 28 = 62$  (P) ·  $36 + 62 = 98$  (R) ·  $12 + 9 = 21$  (W) ·  $21 + 20 = 41$  (E) ·  $35 + 56 = 91$  (C) ·  $25 + 17 = 42$  (I) ·  $28 + 26 = 54$  (M) ·  $59 + 29 = 88$  (S) ·  $27 + 23 = 50$  (H) ·  $39 + 38 = 77$  (A) ·  $16 + 8 = 24$  (L)

#### Clue 3 (Subtraction): "THE SNEAK RECOILED FROM A BRIGHT FLASHLIGHT"

$42 - 18 = 24$  (T) ·  $107 - 21 = 86$  (M) ·  $32 - 4 = 28$  (B) ·  $26 - 12 = 14$  (R) ·  $45 - 9 = 36$  (E) ·  $44 - 13 = 31$  (L) ·  $45 - 23 = 22$  (F) ·  $84 - 26 = 58$  (H) ·  $91 - 27 = 64$  (G) ·  $93 - 10 = 83$  (O) ·  $69 - 10 = 59$  (D) ·  $42 - 26 = 16$  (N) ·  $28 - 15 = 13$  (C) ·  $85 - 37 = 48$  (S) ·  $36 - 15 = 21$  (A) ·  $68 - 19 = 49$  (K) ·  $52 - 15 = 37$  (I)

#### Clue 4 (Skip counting): "DETECTIVES FOUND SHORT BUZZ CUT HAIRS"

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, \_\_, 55, 60 = 50 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, \_\_, 30, 33 = 27 (I) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, \_\_, 30, 35 = 25 (S) · Skip-count by 5s. Fill the blank: 5, 10, \_\_, 20, 25 = 15 (T) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, \_\_, 33, 36 = 30 (C) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, \_\_, 70, 75 = 65 (O) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, \_\_, 42, 45 = 39 (A) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, \_\_, 60, 65 = 55 (B) · Skip-count by 3s. Fill the blank: 3, 6, \_\_, 12, 15 = 9 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, \_\_, 24, 26 = 22 (H) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, \_\_, 110, 120 = 100 (Z) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, \_\_, 80, 90 = 70 (R) · Skip-count by 5s. Fill the blank: 5, 10, 15, \_\_, 25, 30 = 20 (V) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, \_\_, 100, 110 = 90 (N) · Skip-count by 10s. Fill the blank: 10, 20, 30, \_\_, 50, 60 = 40 (F) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, \_\_, 28, 30 = 26 (U)

#### Clue 5 (Missing addends): surviving statement is box 10 → Ranger Mateo

$4 + \underline{\quad} = 6 = 2$  ·  $10 + \underline{\quad} = 17 = 7$  ·  $2 + \underline{\quad} = 11 = 9$  ·  $4 + \underline{\quad} = 12 = 8$  ·  $10 + \underline{\quad} = 15 = 5$  ·  $3 + \underline{\quad} = 6 = 3$  ·  $5 + \underline{\quad} = 9 = 4$  ·  $9 + \underline{\quad} = 10 = 1$  ·  $10 + \underline{\quad} = 22 = 12$  ·  $2 + \underline{\quad} = 13 = 11$  ·  $2 + \underline{\quad} = 8 = 6$