



The Mystery of Misty Mountain Trail

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

Detective: _____ Date: _____

Someone hidden on the mountain trail scrambled all the directional signs and hid the trail map! Detective, check the clues left along the path to find out who did it before nightfall.

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 Trail Mischief-Maker is _____

Possible suspects

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

NAME	TRAIL GEAR	SNACK STASH	COMPASS WRIST	BANDANA COLOR	TRAIL HAZARD
Babsi Zangerl	Hiking Poles	Beef Jerky	Right Wrist	Blue Bandana	Muddy Slopes
Cheryl Strayed	Trekking Pack	Peanut Butter	Left Wrist	Green Bandana	Poison Ivy
Junko Tabei	Trekking Pack	Dried Fruit	Right Wrist	Red Bandana	Muddy Slopes
Reinhold Messner	Trekking Pack	Energy Bars	Right Wrist	Red Bandana	Mosquito Swarms
Bear Grylls	Trekking Pack	Dried Fruit	Right Wrist	Red Bandana	Mosquito Swarms
Grandma Gatewood	GPS Watch	Dried Fruit	Left Wrist	Blue Bandana	Muddy Slopes
Lynn Hill	Hiking Poles	Beef Jerky	Left Wrist	Red Bandana	Mosquito Swarms
Alison Hargreaves	Hiking Poles	Trail Mix	Left Wrist	Red Bandana	Muddy Slopes
Alex Honnold	Hiking Poles	Beef Jerky	Right Wrist	Red Bandana	Mosquito Swarms
John Muir	Heavy Boots	Beef Jerky	Right Wrist	Blue Bandana	Muddy Slopes
Melissa Arnot	GPS Watch	Trail Mix	Right Wrist	Red Bandana	Muddy Slopes
Ed Viesturs	Hiking Poles	Peanut Butter	Right Wrist	Green Bandana	Poison Ivy
Colin O Brady	Heavy Boots	Beef Jerky	Left Wrist	Red Bandana	Poison Ivy
Erik Weihenmayer	GPS Watch	Dried Fruit	Right Wrist	Red Bandana	Muddy Slopes
Dave Hahn	Trekking Pack	Beef Jerky	Right Wrist	Green Bandana	Mosquito Swarms
Arlene Blum	GPS Watch	Peanut Butter	Right Wrist	Green Bandana	Muddy Slopes
Laurie Skreslet	Solar Charger	Peanut Butter	Right Wrist	Blue Bandana	Mosquito Swarms
Jennifer Pharr Davis	GPS Watch	Peanut Butter	Left Wrist	Red Bandana	Mosquito Swarms
Jimmy Chin	Solar Charger	Beef Jerky	Left Wrist	Blue Bandana	Poison Ivy
Anker Sorlie	Solar Charger	Peanut Butter	Right Wrist	Red Bandana	Muddy Slopes
George Mallory	Solar Charger	Energy Bars	Right Wrist	Red Bandana	Muddy Slopes

CLUE 1 Addition

Ranger Rick tallying the trail markers added up all the steps taken today.

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

T														
4695	5162	5349	4725	7689	8882	8882	8144	7689	6039	5162	8144	2415	6039	3881

5349	6039	5349	3821	9254	4311	5446	8144	3821	2415

$1755 + 2940 = \square \rightarrow \boxed{\text{T}}$

$5342 + 2347 = \square \rightarrow \boxed{\text{I}}$

$5047 + 3835 = \square \rightarrow \boxed{\text{L}}$

$3099 + 5045 = \square \rightarrow \boxed{\text{A}}$

$2972 + 2377 = \square \rightarrow \boxed{\text{E}}$

$1114 + 1301 = \square \rightarrow \boxed{\text{S}}$

$1404 + 2477 = \square \rightarrow \boxed{\text{O}}$

$2523 + 2639 = \square \rightarrow \boxed{\text{H}}$

$3060 + 2386 = \square \rightarrow \boxed{\text{B}}$

$4119 + 5135 = \square \rightarrow \boxed{\text{G}}$

$3116 + 2923 = \square \rightarrow \boxed{\text{N}}$

$1617 + 2694 = \square \rightarrow \boxed{\text{Y}}$

$2108 + 2617 = \square \rightarrow \boxed{\text{V}}$

$1704 + 2117 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 2

The electronic trailhead sign rounds all distance measurements to the nearest hundred.

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

Diagram illustrating the arrangement of boxes (representing data points) in a 3x10 grid. The boxes are arranged in three rows and ten columns. The values in the boxes are as follows:

2300	900	9000	1700	70	1700	20	9000	200	2300	30	370	700	9000	2300	900	9000
200	370	7000	20	130	1700	1700	370	1300	2300	900	9000	700	50	2900	900	2300
30	700	50	1700	2300												

The boxes containing the value 2300 are highlighted in orange and labeled 'T'.

Round 2,291 to the nearest hundred → **T**

Round 653 to the nearest hundred $\rightarrow$ **R**

Round 1,672 to the nearest hundred → **S**

Round 9,223 to the nearest thousand → **E**

Round 217 to the nearest hundred → **C**

Round 915 to the nearest hundred $\rightarrow$ **H**

Round 32 to the nearest ten → **W**

Round 370 to the nearest ten $\rightarrow$

Round 17 to the nearest ten $\rightarrow$ **P**

Round 49 to the nearest ten $\rightarrow$

Round 72 to the nearest ten $\rightarrow$ **U**

Round 128 to the nearest ten $\rightarrow$ **A**

Round 2,925 to the nearest hundred → **G**

Round 6,643 to the nearest thousand → **M**

Round 1,277 to the nearest hundred → **N**

Scratch space:

CLUE 3

Subtraction

The logbook shows how many supply boxes remain after subtracting what was used.

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

T																			
8199	6505	5752	6215	6673	6215	4223	5752	5289	8199	6215	3503	3100	4223	4223	5752	3960	4960	8105	

5490	6673	3960	3960	8087	6215	3503	4960	4223	5752	6215	

$$10529 - 2330 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$6291 - 801 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$7838 - 3878 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$7195 - 690 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$6349 - 134 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5641 - 1418 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$10874 - 2769 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$8735 - 3446 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$3874 - 371 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$9619 - 2946 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$7390 - 2430 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$8985 - 898 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$$6015 - 2915 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$6983 - 1231 = \boxed{} \rightarrow \boxed{\text{E}}$$

Scratch space:

CLUE 4
Multiplication facts (1-12)

Each hiking group carries equal rows of water bottles in their packs.

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

R												R				
14	3	49	63	35	48	49	35	48	35	24	66	14	3	35	49	20

		R						R				
12	3	14	3	9	48	35	63	14	35	48	8	66

$7 \times 2 = \square \rightarrow$ R	$7 \times 7 = \square \rightarrow$ D	$12 \times 2 = \square \rightarrow$ T	$8 \times 6 = \square \rightarrow$ N
$9 \times 7 = \square \rightarrow$ B	$7 \times 5 = \square \rightarrow$ A	$1 \times 9 = \square \rightarrow$ O	$3 \times 1 = \square \rightarrow$ E
$6 \times 11 = \square \rightarrow$ H	$1 \times 12 = \square \rightarrow$ W	$1 \times 8 = \square \rightarrow$ C	
$2 \times 10 = \square \rightarrow$ S			

Scratch space:

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

The camp counselors split the trail maps equally among all small hiking teams.

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:

$42 \div 7 = \boxed{}$

$36 \div 9 = \boxed{}$

$50 \div 5 = \boxed{}$

$48 \div 4 = \boxed{}$

$70 \div 10 = \boxed{}$

$90 \div 10 = \boxed{}$

$20 \div 4 = \boxed{}$

$66 \div 6 = \boxed{}$

$6 \div 6 = \boxed{}$

$72 \div 9 = \boxed{}$

$9 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain checked a gps watch, then spread peanut butter.
2. The villain set up a solar charger, then spread peanut butter.
3. The villain used heavy hiking poles, then chewed dried fruit.
4. The villain checked a gps watch, then chewed dried fruit.
5. The villain set up a solar charger, then snacked on beef jerky.
6. The villain checked a gps watch, then munched on trail mix.
7. The villain set up a solar charger, then chewed dried fruit.
8. The villain used heavy hiking poles, then munched on trail mix.
9. The villain set up a solar charger, then ate energy bars.
10. The villain hefted a trekking pack, then chewed dried fruit.
11. The villain stomped in muddy boots, then ate energy bars.
12. The villain used heavy hiking poles, then ate energy bars.

Answer Key

The Mystery of Misty Mountain Trail

Culprit: Anker Sorlie

Solar Charger · Peanut Butter · Right Wrist · Red Bandana · Muddy Slopes

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN HAS NO ENERGY BARS"

$1755 + 2940 = 4695$ (T) · $5342 + 2347 = 7689$ (I) · $5047 + 3835 = 8882$ (L) · $3099 + 5045 = 8144$ (A) · $2972 + 2377 = 5349$ (E) · $1114 + 1301 = 2415$ (S) · $1404 + 2477 = 3881$ (O) · $2523 + 2639 = 5162$ (H) · $3060 + 2386 = 5446$ (B) · $4119 + 5135 = 9254$ (G) · $3116 + 2923 = 6039$ (N) · $1617 + 2694 = 4311$ (Y) · $2108 + 2617 = 4725$ (V) · $1704 + 2117 = 3821$ (R)

Clue 2 (Rounding): "THE SUSPECT WORE THE COMPASS ON THE RIGHT WRIST"

Round 2,291 to the nearest hundred = 2300 (T) · Round 653 to the nearest hundred = 700 (R) · Round 1,672 to the nearest hundred = 1700 (S) · Round 9,223 to the nearest thousand = 9000 (E) · Round 217 to the nearest hundred = 200 (C) · Round 915 to the nearest hundred = 900 (H) · Round 32 to the nearest ten = 30 (W) · Round 370 to the nearest ten = 370 (O) · Round 17 to the nearest ten = 20 (P) · Round 49 to the nearest ten = 50 (I) · Round 72 to the nearest ten = 70 (U) · Round 128 to the nearest ten = 130 (A) · Round 2,925 to the nearest hundred = 2900 (G) · Round 6,643 to the nearest thousand = 7000 (M) · Round 1,277 to the nearest hundred = 1300 (N)

Clue 3 (Subtraction): "THE SUSPECT SLIPPED ON MUDDY SLOPES"

$10529 - 2330 = 8199$ (T) · $6291 - 801 = 5490$ (M) · $7838 - 3878 = 3960$ (D) · $7195 - 690 = 6505$ (H) · $6349 - 134 = 6215$ (S) · $5641 - 1418 = 4223$ (P) · $10874 - 2769 = 8105$ (N) · $8735 - 3446 = 5289$ (C) · $3874 - 371 = 3503$ (L) · $9619 - 2946 = 6673$ (U) · $7390 - 2430 = 4960$ (O) · $8985 - 898 = 8087$ (Y) · $6015 - 2915 = 3100$ (I) · $6983 - 1231 = 5752$ (E)

Clue 4 (Multiplication facts (1-12)): "RED BANDANA THREADS WERE ON A BRANCH"

$7 \times 2 = 14$ (R) · $7 \times 7 = 49$ (D) · $12 \times 2 = 24$ (T) · $8 \times 6 = 48$ (N) · $9 \times 7 = 63$ (B) · $7 \times 5 = 35$ (A) · $1 \times 9 = 9$ (O) · $3 \times 1 = 3$ (E) · $6 \times 11 = 66$ (H) · $1 \times 12 = 12$ (W) · $1 \times 8 = 8$ (C) · $2 \times 10 = 20$ (S)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Anker Sorlie

$42 \div 7 = 6$ · $36 \div 9 = 4$ · $50 \div 5 = 10$ · $48 \div 4 = 12$ · $70 \div 10 = 7$ · $90 \div 10 = 9$ · $20 \div 4 = 5$ · $66 \div 6 = 11$ · $6 \div 6 = 1$ · $72 \div 9 = 8$ · $9 \div 3 = 3$