



The Great Ridge Mystery

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

Detective: _____ Date: _____

Someone swapped all the trail signs in Pine Valley! Head Ranger Dan needs your help to decode the clues, track down the suspect, and set the hiking paths right.

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 Rascal is _____

Possible suspects

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

NAME	NAVIGATION GEAR	FAVORITE SNACK	WALKING STYLE	HAT TYPE	TRAIL HAZARD
Summit Sam	Trail Whistle	Granola Bites	Carries Wooden Staff	Orange Cap	Thick Briars
Sky Skylar	Brass Compass	Trail Mix	Uses Trekking Poles	Green Beanie	Thick Briars
Hiker Hannah	Digital GPS	Trail Mix	Carries Wooden Staff	Orange Cap	Thick Briars
Cliff Caleb	Digital GPS	Fruit Leather	Uses Trekking Poles	Green Beanie	Thick Briars
Peak Peter	Digital GPS	Dried Mango	Carries Wooden Staff	Orange Cap	Thick Briars
Trekkie Tim	Digital GPS	Energy Bar	Carries Wooden Staff	Orange Cap	Loose Scree
Sierra Sofia	Digital GPS	Dried Mango	Uses Trekking Poles	Yellow Bucket Hat	Thick Briars
Canyon Chloe	Brass Compass	Dried Mango	Carries Wooden Staff	Orange Cap	Thick Briars
River Riley	Paper Map	Fruit Leather	Uses Trekking Poles	Orange Cap	Muddy Slope
Boulder Ben	Digital GPS	Dried Mango	Carries Wooden Staff	Yellow Bucket Hat	Muddy Slope
Woodland Wyatt	Brass Compass	Dried Mango	Carries Wooden Staff	Orange Cap	Muddy Slope
Valley Violet	Altimeter Watch	Granola Bites	Uses Trekking Poles	Yellow Bucket Hat	Muddy Slope
Scout Sarah	Paper Map	Trail Mix	Carries Wooden Staff	Green Beanie	Thick Briars
Timber Toby	Trail Whistle	Dried Mango	Uses Trekking Poles	Orange Cap	Thick Briars
Ridge Ryan	Trail Whistle	Trail Mix	Uses Trekking Poles	Orange Cap	Loose Scree
Fern Fiona	Trail Whistle	Trail Mix	Carries Wooden Staff	Orange Cap	Thick Briars
Forest Frank	Altimeter Watch	Energy Bar	Carries Wooden Staff	Yellow Bucket Hat	Muddy Slope
Ranger Rick	Trail Whistle	Fruit Leather	Uses Trekking Poles	Orange Cap	Thick Briars
Brook Bella	Paper Map	Dried Mango	Uses Trekking Poles	Yellow Bucket Hat	Loose Scree
Alpine Alex	Brass Compass	Energy Bar	Carries Wooden Staff	Orange Cap	Loose Scree
Glacier Gavin	Brass Compass	Fruit Leather	Carries Wooden Staff	Orange Cap	Thick Briars

CLUE 1 Addition

You tally up all the supplies found at the trailhead to spot an extra pack.

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

5266 6588 6726 8969 9197 6726 2692 2889 4767 8969 9197 3343 3343 8350 2312 5309 2312

9197 3343 5266 8350 2692 6828 2889 2692 9197 4767 2312 7733 5309 6726 2312

7505 2692 9197 2237 3343

$2412 + 2854 = \boxed{} \rightarrow \boxed{\text{T}}$

$686 + 1551 = \boxed{} \rightarrow \boxed{\text{G}}$

$2324 + 1019 = \boxed{} \rightarrow \boxed{\text{O}}$

$2952 + 4781 = \boxed{} \rightarrow \boxed{\text{R}}$

$3649 + 4701 = \boxed{} \rightarrow \boxed{\text{P}}$

$2619 + 2690 = \boxed{} \rightarrow \boxed{\text{I}}$

$4609 + 2117 = \boxed{} \rightarrow \boxed{\text{E}}$

$2273 + 5232 = \boxed{} \rightarrow \boxed{\text{M}}$

$3096 + 6101 = \boxed{} \rightarrow \boxed{\text{N}}$

$1101 + 1788 = \boxed{} \rightarrow \boxed{\text{K}}$

$4606 + 1982 = \boxed{} \rightarrow \boxed{\text{H}}$

$3693 + 5276 = \boxed{} \rightarrow \boxed{\text{S}}$

$2588 + 4240 = \boxed{} \rightarrow \boxed{\text{C}}$

$967 + 1725 = \boxed{} \rightarrow \boxed{\text{A}}$

$953 + 1359 = \boxed{} \rightarrow \boxed{\text{D}}$

$3214 + 1553 = \boxed{} \rightarrow \boxed{\text{Y}}$

Scratch space:

CLUE 2 Rounding

The ranger checks the trail elevation display, which only shows rounded numbers.

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

T									T										
370	900	2900	500	430	500	2300	2900	170	370	300	230	500	500	2900	2900	90			
															T				
170	230	3700	3700	70	20	90	5000	230	300	3000	3000	1700	2900	90	500	370	230	1300	1300

Round 374 to the nearest ten → **T**

Round 169 to the nearest ten → **C**

Round 70 to the nearest ten → **Y**

Round 2,856 to the nearest hundred → **E**

Round 3,679 to the nearest hundred → **R**

Round 3,130 to the nearest thousand → **O**

Round 5,252 to the nearest thousand → **G**

Round 941 to the nearest hundred → **H**

Round 2,290 to the nearest hundred → **P**

Round 1,299 to the nearest hundred → **F**

Round 273 to the nearest hundred → **W**

Round 88 to the nearest ten → **N**

Round 503 to the nearest hundred → **S**

Round 231 to the nearest ten → **A**

Round 432 to the nearest ten → **U**

Round 18 to the nearest ten → **I**

Round 1,710 to the nearest hundred → **D**

Scratch space:

CLUE 3

Subtraction

You count the remaining water bottles left in the supply bin to see what was taken.

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

T									T										
3018	6794	7614	2733	4886	2733	3705	7614	3298	3018	6720	5006	2733	6531	7614	2278	5006	2899	7614	6531

		T												
8978	2899	3018	6794	8230	3298	3824	8978	1062	8230	5006	1062	2733		

$5332 - 2314 = \square \rightarrow \boxed{\text{T}}$

$12702 - 3724 = \square \rightarrow \boxed{\text{B}}$

$7117 - 323 = \square \rightarrow \boxed{\text{H}}$

$3974 - 676 = \square \rightarrow \boxed{\text{C}}$

$5816 - 3083 = \square \rightarrow \boxed{\text{S}}$

$7213 - 493 = \square \rightarrow \boxed{\text{W}}$

$8462 - 4757 = \square \rightarrow \boxed{\text{P}}$

$13173 - 4943 = \square \rightarrow \boxed{\text{I}}$

$8580 - 4756 = \square \rightarrow \boxed{\text{K}}$

$3991 - 2929 = \square \rightarrow \boxed{\text{R}}$

$7661 - 4762 = \square \rightarrow \boxed{\text{Y}}$

$6546 - 15 = \square \rightarrow \boxed{\text{D}}$

$9852 - 4966 = \square \rightarrow \boxed{\text{U}}$

$11414 - 3800 = \square \rightarrow \boxed{\text{E}}$

$2994 - 716 = \square \rightarrow \boxed{\text{L}}$

$7710 - 2704 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

You calculate total trail snacks by counting equal rows inside the gear boxes.

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

O																			
80	77	25	12	44	50	49	25	9	77	4	144	7	60	77	50	25	99	90	
							O				O								
6	50	77	50	49	80	14	12	99	80	12	25	9	77	25	12	144	60		

$8 \times 10 = \square \rightarrow \text{O}$

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

$10 \times 5 = \square \rightarrow \text{E}$

$4 \times 11 = \square \rightarrow \text{G}$

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

$7 \times 1 = \square \rightarrow \text{T}$

$9 \times 10 = \square \rightarrow \text{S}$

$11 \times 7 = \square \rightarrow \text{R}$

$3 \times 2 = \square \rightarrow \text{W}$

$7 \times 2 = \square \rightarrow \text{U}$

$4 \times 3 = \square \rightarrow \text{N}$

$7 \times 7 = \square \rightarrow \text{F}$

$2 \times 2 = \square \rightarrow \text{I}$

$1 \times 9 = \square \rightarrow \text{B}$

$10 \times 6 = \square \rightarrow \text{H}$

$9 \times 11 = \square \rightarrow \text{D}$

Scratch space:

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

You divide the total miles evenly among the search teams to cover every path.

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:

$30 \div 3 = \boxed{}$

$35 \div 7 = \boxed{}$

$63 \div 7 = \boxed{}$

$8 \div 2 = \boxed{}$

$63 \div 9 = \boxed{}$

$24 \div 12 = \boxed{}$

$12 \div 2 = \boxed{}$

$72 \div 9 = \boxed{}$

$9 \div 9 = \boxed{}$

$24 \div 8 = \boxed{}$

$72 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain aligned the brass compass, then eating dried mango.
2. The villain read the altimeter watch, then snacking on granola bites.
3. The villain checked the digital gps, then chewing an energy bar.
4. The villain read the altimeter watch, then nibbling fruit leather.
5. The villain checked the digital gps, then munching on trail mix.
6. The villain blew the trail whistle, then nibbling fruit leather.
7. The villain read the altimeter watch, then eating dried mango.
8. The villain aligned the brass compass, then munching on trail mix.
9. The villain blew the trail whistle, then munching on trail mix.
10. The villain aligned the brass compass, then nibbling fruit leather.
11. The villain blew the trail whistle, then snacking on granola bites.
12. The villain unfolded the paper map, then chewing an energy bar.

Answer Key

The Great Ridge Mystery

Culprit: Summit Sam

Trail Whistle · Granola Bites · Carries Wooden Staff · Orange Cap · Thick Briars

Trail: Start 21 → Clue 1 14 → Clue 2 8 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SNEAKY SNOOP DID NOT PACK ANY DRIED MANGO"

$2412 + 2854 = 5266$ (T) · $686 + 1551 = 2237$ (G) · $2324 + 1019 = 3343$ (O) · $2952 + 4781 = 7733$ (R) · $3649 + 4701 = 8350$ (P) · $2619 + 2690 = 5309$ (I) · $4609 + 2117 = 6726$ (E) · $2273 + 5232 = 7505$ (M) · $3096 + 6101 = 9197$ (N) · $1101 + 1788 = 2889$ (K) · $4606 + 1982 = 6588$ (H) · $3693 + 5276 = 8969$ (S) · $2588 + 4240 = 6828$ (C) · $967 + 1725 = 2692$ (A) · $953 + 1359 = 2312$ (D) · $3214 + 1553 = 4767$ (Y)

Clue 2 (Rounding): "THE SUSPECT WAS SEEN CARRYING A WOODEN STAFF"

Round 374 to the nearest ten = 370 (T) · Round 169 to the nearest ten = 170 (C) · Round 70 to the nearest ten = 70 (Y) · Round 2,856 to the nearest hundred = 2900 (E) · Round 3,679 to the nearest hundred = 3700 (R) · Round 3,130 to the nearest thousand = 3000 (O) · Round 5,252 to the nearest thousand = 5000 (G) · Round 941 to the nearest hundred = 900 (H) · Round 2,290 to the nearest hundred = 2300 (P) · Round 1,299 to the nearest hundred = 1300 (F) · Round 273 to the nearest hundred = 300 (W) · Round 88 to the nearest ten = 90 (N) · Round 503 to the nearest hundred = 500 (S) · Round 231 to the nearest ten = 230 (A) · Round 432 to the nearest ten = 430 (U) · Round 18 to the nearest ten = 20 (I) · Round 1,710 to the nearest hundred = 1700 (D)

Clue 3 (Subtraction): "THE SUSPECT WAS DELAYED BY THICK BRIARS"

$5332 - 2314 = 3018$ (T) · $12702 - 3724 = 8978$ (B) · $7117 - 323 = 6794$ (H) · $3974 - 676 = 3298$ (C) · $5816 - 3083 = 2733$ (S) · $7213 - 493 = 6720$ (W) · $8462 - 4757 = 3705$ (P) · $13173 - 4943 = 8230$ (I) · $8580 - 4756 = 3824$ (K) · $3991 - 2929 = 1062$ (R) · $7661 - 4762 = 2899$ (Y) · $6546 - 15 = 6531$ (D) · $9852 - 4966 = 4886$ (U) · $11414 - 3800 = 7614$ (E) · $2994 - 716 = 2278$ (L) · $7710 - 2704 = 5006$ (A)

Clue 4 (Multiplication facts (1-12)): "ORANGE FABRIC THREADS WERE FOUND ON A BRANCH"

$8 \times 10 = 80$ (O) · $12 \times 12 = 144$ (C) · $10 \times 5 = 50$ (E) · $4 \times 11 = 44$ (G) · $5 \times 5 = 25$ (A) · $7 \times 1 = 7$ (T) · $9 \times 10 = 90$ (S) · $11 \times 7 = 77$ (R) · $3 \times 2 = 6$ (W) · $7 \times 2 = 14$ (U) · $4 \times 3 = 12$ (N) · $7 \times 7 = 49$ (F) · $2 \times 2 = 4$ (I) · $1 \times 9 = 9$ (B) · $10 \times 6 = 60$ (H) · $9 \times 11 = 99$ (D)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Summit Sam

$30 \div 3 = 10$ · $35 \div 7 = 5$ · $63 \div 7 = 9$ · $8 \div 2 = 4$ · $63 \div 9 = 7$ · $24 \div 12 = 2$ · $12 \div 2 = 6$ · $72 \div 9 = 8$ · $9 \div 9 = 1$ · $24 \div 8 = 3$ · $72 \div 6 = 12$