The Great Treehouse Mystery

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

Detective: _____ **Date:** _____

Someone scrambled the secret maps at the Cosmic Treehouse Headquarters! Head Scout Master Barnaby needs your math skills to decode clues and find the culprit.

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 Treehouse Traitor is _____

Possible suspects

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

NAME	MAIN GEAR	SPECIAL ITEM	DOMINANT HAND	HAIR STYLE	SECRET WEAKNESS
Scout Amy	Night Goggles	Secret Map	Left Handed	Curly Hair	Sneeze Powder
Scout Gil	Smoke Bombs	Brass Compass	Right Handed	Spiky Hair	Tickle Feather
Scout Pip	Night Goggles	Signal Flare	Right Handed	Braided Hair	Sneeze Powder
Scout Lou	Night Goggles	Brass Compass	Right Handed	Spiky Hair	Loud Whistle
Scout Mia	Night Goggles	Pocket Radio	Left Handed	Curly Hair	Tickle Feather
Scout Ben	Smoke Bombs	Signal Flare	Right Handed	Braided Hair	Tickle Feather
Scout Max	Smoke Bombs	Pocket Radio	Left Handed	Braided Hair	Tickle Feather
Scout Sam	Jet Boots	Solar Torch	Right Handed	Braided Hair	Tickle Feather
Scout Dan	Night Goggles	Pocket Radio	Right Handed	Braided Hair	Tickle Feather
Scout Kai	Glider Wings	Signal Flare	Left Handed	Spiky Hair	Loud Whistle
Scout Leo	Night Goggles	Solar Torch	Right Handed	Spiky Hair	Tickle Feather
Scout Jay	Glider Wings	Secret Map	Right Handed	Braided Hair	Tickle Feather
Scout Fay	Grappling Hook	Pocket Radio	Left Handed	Braided Hair	Tickle Feather
Scout Eva	Grappling Hook	Secret Map	Left Handed	Braided Hair	Loud Whistle
Scout Zoe	Grappling Hook	Pocket Radio	Right Handed	Spiky Hair	Loud Whistle
Scout Ann	Glider Wings	Pocket Radio	Right Handed	Curly Hair	Tickle Feather
Scout Rex	Jet Boots	Signal Flare	Left Handed	Curly Hair	Sneeze Powder
Scout Ava	Night Goggles	Brass Compass	Right Handed	Curly Hair	Sneeze Powder
Scout Joy	Grappling Hook	Brass Compass	Right Handed	Braided Hair	Loud Whistle
Scout Eli	Grappling Hook	Pocket Radio	Right Handed	Braided Hair	Tickle Feather
Scout Ned	Glider Wings	Secret Map	Left Handed	Spiky Hair	Sneeze Powder

make your own at mathcrackers.com

CLUE 1 Place value

Scout Master Barnaby checked the place value scanner on the security lock.

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

| | | |

CLUE 2 Rounding

The wind meter on the lookout tower rounds all force numbers to the nearest ten.

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

T			T													T			
20	110	500	20	90	50	290	4300	5000	5000	110	2300	30	50	90	70	230	110	20	

110	50	430	7000	500	7000	230	90	70	3000

Round 21 to the nearest ten ☐ → T

Round 4,251 to the nearest hundred ☐ → K

Round 2,329 to the nearest hundred ☐ → O

Round 71 to the nearest ten ☐ → I

Round 482 to the nearest hundred ☐ → E

Round 88 to the nearest ten ☐ → R

Round 2,799 to the nearest thousand ☐ → P

Round 234 to the nearest ten ☐ → G

Round 4,650 to the nearest thousand ☐ → S

Round 433 to the nearest ten ☐ → N

Round 50 to the nearest ten ☐ → A

Round 30 to the nearest ten ☐ → W

Round 7,188 to the nearest thousand ☐ → D

Round 286 to the nearest ten ☐ → C

Round 109 to the nearest ten ☐ → H

Scratch space:

CLUE 3 Addition

> The team totaled all the missing adventure badges from the supply chest.

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



1283 + 1345 = ☐ → A	3727 + 2777 = ☐ → F	1005 + 998 = ☐ → K
4635 + 5016 = ☐ → T	2374 + 1324 = ☐ → I	1452 + 1327 = ☐ → P
2135 + 2358 = ☐ → E	1545 + 1076 = ☐ → C	4051 + 5439 = ☐ → D
2396 + 2464 = ☐ → H	4859 + 4870 = ☐ → N	2536 + 1166 = ☐ → R
3348 + 5175 = ☐ → L	998 + 1256 = ☐ → O	1991 + 2480 = ☐ → S

Scratch space:

CLUE 4 Subtraction

The detective calculated the difference in rope lengths left behind.

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



8577 - 2094 = ☐ → W

10996 - 2539 = ☐ → O

9399 - 3149 = ☐ → I

8689 - 1325 = ☐ → F

12362 - 4883 = ☐ → C

6001 - 2140 = ☐ → A

8841 - 3230 = ☐ → D

4628 - 1287 = ☐ → T

8217 - 2833 = ☐ → E

2131 - 364 = ☐ → B

10583 - 1780 = ☐ → N

8022 - 3596 = ☐ → R

5737 - 4356 = ☐ → H

11615 - 4312 = ☐ → U

Scratch space:

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

> The scouts split the snack crackers equally into rescue packs.

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:

132 ÷ 11 = ☐ | 40 ÷ 5 = ☐ | 14 ÷ 2 = ☐ | 20 ÷ 2 = ☐ | 60 ÷ 12 = ☐

40 ÷ 10 = ☐ | 42 ÷ 7 = ☐ | 21 ÷ 7 = ☐ | 2 ÷ 1 = ☐ | 1 ÷ 1 = ☐

45 ÷ 5 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain vanishes into smoke, then flashes the solar torch.
2. The villain swings between branches, then adjusts the brass compass.
3. The villain vanishes into smoke, then swipes the secret map.
4. The villain scouts in pitch dark, then flashes the solar torch.
5. The villain vanishes into smoke, then adjusts the brass compass.
6. The villain soars across canopy, then tunes the pocket radio.
7. The villain scouts in pitch dark, then tunes the pocket radio.
8. The villain swings between branches, then tunes the pocket radio.
9. The villain swings between branches, then swipes the secret map.
10. The villain zooms over treetop, then adjusts the brass compass.
11. The villain soars across canopy, then swipes the secret map.
12. The villain zooms over treetop, then flashes the solar torch.

TEACHER / PARENT

Answer Key

The Great Treehouse Mystery

Culprit: Scout Jay

Glider Wings · Secret Map · Right Handed · Braided Hair · Tickle Feather

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SNEAK DOES NOT USE A SIGNAL FLARE"

What is the value of the 2 in 240? = 200 (T) · What is the value of the 3 in 2,318? = 300 (O) · What is the value of the 7 in 670? = 70 (A) · What is the value of the 6 in 8,363? = 60 (D) · What is the value of the 3 in 73,052? = 3000 (I) · What is the value of the 6 in 677? = 600 (N) · What is the value of the 1 in 3,174? = 100 (G) · What is the value of the 7 in 764? = 700 (L) · What is the value of the 6 in 36,738? = 6000 (K) · What is the value of the 2 in 728? = 20 (E) · What is the value of the 5 in 5,122? = 5000 (S) · What is the value of the 4 in 54,673? = 4000 (H) · What is the value of the 8 in 68,995? = 8000 (U) · What is the value of the 5 in 544? = 500 (R) · What is the value of the 4 in 5,463? = 400 (F)

Clue 2 (Rounding): "THE TRACKS SHOW A RIGHT HANDED GRIP"

Round 21 to the nearest ten = 20 (T) · Round 4,251 to the nearest hundred = 4300 (K) · Round 2,329 to the nearest hundred = 2300 (O) · Round 71 to the nearest ten = 70 (I) · Round 482 to the nearest hundred = 500 (E) · Round 88 to the nearest ten = 90 (R) · Round 2,799 to the nearest thousand = 3000 (P) · Round 234 to the nearest ten = 230 (G) · Round 4,650 to the nearest thousand = 5000 (S) · Round 433 to the nearest ten = 430 (N) · Round 50 to the nearest ten = 50 (A) · Round 30 to the nearest ten = 30 (W) · Round 7,188 to the nearest thousand = 7000 (D) · Round 286 to the nearest ten = 290 (C) · Round 109 to the nearest ten = 110 (H)

Clue 3 (Addition): "A TICKLE FEATHER STOPPED THE SNEAK"

1283 + 1345 = 2628 (A) · 3727 + 2777 = 6504 (F) · 1005 + 998 = 2003 (K) · 4635 + 5016 = 9651 (T) · 2374 + 1324 = 3698 (I) · 1452 + 1327 = 2779 (P) · 2135 + 2358 = 4493 (E) · 1545 + 1076 = 2621 (C) · 4051 + 5439 = 9490 (D) · 2396 + 2464 = 4860 (H) · 4859 + 4870 = 9729 (N) · 2536 + 1166 = 3702 (R) · 3348 + 5175 = 8523 (L) · 998 + 1256 = 2254 (O) · 1991 + 2480 = 4471 (S)

Clue 4 (Subtraction): "WE FOUND BRAIDED HAIR ON THE BRANCH"

8577 - 2094 = 6483 (W) · 10996 - 2539 = 8457 (O) · 9399 - 3149 = 6250 (I) · 8689 - 1325 = 7364 (F) · 12362 - 4883 = 7479 (C) · 6001 - 2140 = 3861 (A) · 8841 - 3230 = 5611 (D) · 4628 - 1287 = 3341 (T) · 8217 - 2833 = 5384 (E) · 2131 - 364 = 1767 (B) · 10583 - 1780 = 8803 (N) · 8022 - 3596 = 4426 (R) · 5737 - 4356 = 1381 (H) · 11615 - 4312 = 7303 (U)

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

132 ÷ 11 = 12 · 40 ÷ 5 = 8 · 14 ÷ 2 = 7 · 20 ÷ 2 = 10 · 60 ÷ 12 = 5 · 40 ÷ 10 = 4 · 42 ÷ 7 = 6 · 21 ÷ 7 = 3 · 2 ÷ 1 = 2 · 1 ÷ 1 = 1 · 45 ÷ 5 = 9