



The Cloud Island Caper

Grade 4 math · Fractions of a number, Rounding, Addition, Subtraction · Reading level grades 3-4

Detective: _____ **Date:** _____

The Golden Compass Rose has vanished from the Grand Zephyr airship! The Chief Cartographer needs your help to track down the sneaky rogue explorer who took it before they escape to the high cloud islands.

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 explorer is _____

Possible suspects

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

NAME	GEAR USED	RANGER BADGE	WRITING HAND	HAIR COLOR	DROPPED SNACK
Zoe	grapple boots	star badge	writes with left hand	blond hair	coconut drops
Kip	grapple boots	star badge	writes with right hand	brown hair	maple fudge
Kai	grapple hook	wind badge	writes with right hand	blond hair	banana chips
Mac	zip-line gloves	star badge	writes with left hand	blond hair	coconut drops
Mia	glider pack	star badge	writes with left hand	blond hair	banana chips
Ted	grapple boots	sun badge	writes with left hand	brown hair	maple fudge
Amy	grapple hook	cloud badge	writes with right hand	black hair	maple fudge
Rex	zip-line gloves	storm badge	writes with left hand	blond hair	coconut drops
Sid	grapple hook	sun badge	writes with right hand	blond hair	banana chips
Roy	grapple hook	wind badge	writes with left hand	blond hair	coconut drops
Maya	smoke bomb	cloud badge	writes with left hand	black hair	coconut drops
Ben	grapple hook	wind badge	writes with left hand	blond hair	banana chips
Dan	glider pack	star badge	writes with right hand	blond hair	maple fudge
Max	grapple boots	star badge	writes with left hand	black hair	coconut drops
Joy	grapple boots	sun badge	writes with left hand	brown hair	banana chips
Ned	zip-line gloves	cloud badge	writes with left hand	black hair	maple fudge
Kit	zip-line gloves	storm badge	writes with left hand	blond hair	banana chips
Cal	smoke bomb	star badge	writes with right hand	black hair	banana chips
Leo	zip-line gloves	sun badge	writes with right hand	blond hair	banana chips
Jax	grapple hook	storm badge	writes with right hand	blond hair	coconut drops
Sam	grapple hook	sun badge	writes with left hand	blond hair	coconut drops

CLUE 1

Fractions of a number

The airship crew found a crate of cargo. Some of the boxes are missing. We need to find the fraction of the remaining boxes to unlock the first cabin door.

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

T			T											T				
3	19	8	3	19	31	8	23	14	11	8	33	38	11	3	19	12	4	8
T																		
3	19	8	34	31	38	14	37	12	14	7	8							

$1/5 \text{ of } 15 = \square \rightarrow \text{T}$

$2/4 \text{ of } 76 = \square \rightarrow \text{N}$

$1/4 \text{ of } 136 = \square \rightarrow \text{W}$

$1/8 \text{ of } 96 = \square \rightarrow \text{A}$

$5/10 \text{ of } 8 = \square \rightarrow \text{V}$

$1/3 \text{ of } 57 = \square \rightarrow \text{H}$

$1/8 \text{ of } 88 = \square \rightarrow \text{O}$

$1/10 \text{ of } 80 = \square \rightarrow \text{E}$

$1/4 \text{ of } 148 = \square \rightarrow \text{B}$

$1/5 \text{ of } 35 = \square \rightarrow \text{G}$

$2/6 \text{ of } 99 = \square \rightarrow \text{S}$

$4/6 \text{ of } 21 = \square \rightarrow \text{D}$

$4/8 \text{ of } 46 = \square \rightarrow \text{F}$

$1/4 \text{ of } 124 = \square \rightarrow \text{I}$

Scratch space:

CLUE 2

The airship altimeter is acting up on our climb. The dial only shows the altitude rounded to the nearest ten. Round these numbers to read the next clue.

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

Diagram illustrating a sequence of numbers arranged in two rows of boxes. The top row contains 16 boxes with values: 50, 4300, 20, 200, 70, 200, 7000, 20, 3000, 50, 290, 90, 230, 50, 20, 200, 290, 230, 50, 4300. The bottom row contains 16 boxes with values: 50, 4300, 20, 230, 90, 700, 20, 500, 50, 4300, 2300, 110, 1700. In both rows, the 10th box (value 50) is highlighted with an orange background and a large orange 'T'.

Round 46 to the nearest ten $\rightarrow$ **T**

Round 74 to the nearest ten $\rightarrow$ **U**

Round 3,177 to the nearest thousand → **C**

Round 1,732 to the nearest hundred $\rightarrow$ **D**

Round 4,276 to the nearest hundred $\rightarrow$ **H**

Round 2,284 to the nearest hundred → **A**

Round 227 to the nearest ten $\rightarrow$

Round 154 to the nearest hundred $\rightarrow$ **S**

Round 89 to the nearest ten $\rightarrow$ **R**

Round 110 to the nearest ten $\rightarrow$ **N**

Round 7,120 to the nearest thousand → **P**

Round 286 to the nearest ten $\rightarrow$ **W**

Round 23 to the nearest ten → **E**

Round 702 to the nearest hundred $\rightarrow$ **L**

Round 461 to the nearest hundred $\rightarrow$ **F**

Scratch space:

CLUE 3

We found a pile of dropped copper gears on the deck. Add the gear counts together to see how many the thief lost.

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

$$4430 + 3845 = \boxed{} \rightarrow \mathbf{N}$$

Scratch space:

CLUE 4

Subtraction

The escape glider used up some of its fuel tanks. Subtract the empty tanks from the starting total to see how much fuel remains.

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

W															
7075	2160	8964	8385	2695	1185	6225	5364	2615	7036	6213	1185	6225	5364	8385	8964
5364	5330	3621	1185	2625	4080	4096	8385	1185	6225	5330	6213	3621	7036		

$10393 - 3318 = \square \rightarrow \boxed{\text{W}}$

$7194 - 4569 = \square \rightarrow \boxed{\text{Y}}$

$7328 - 4713 = \square \rightarrow \boxed{\text{T}}$

$9363 - 3999 = \square \rightarrow \boxed{\text{S}}$

$11940 - 4904 = \square \rightarrow \boxed{\text{R}}$

$9506 - 1121 = \square \rightarrow \boxed{\text{O}}$

$1888 - 703 = \square \rightarrow \boxed{\text{N}}$

$7115 - 890 = \square \rightarrow \boxed{\text{D}}$

$9090 - 2877 = \square \rightarrow \boxed{\text{A}}$

$6356 - 2276 = \square \rightarrow \boxed{\text{B}}$

$9004 - 40 = \square \rightarrow \boxed{\text{F}}$

$7128 - 4968 = \square \rightarrow \boxed{\text{E}}$

$4503 - 407 = \square \rightarrow \boxed{\text{L}}$

$6211 - 881 = \square \rightarrow \boxed{\text{H}}$

$8012 - 4391 = \square \rightarrow \boxed{\text{I}}$

$5135 - 2440 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 5**Fractions of a number - the last clue**

Our scout found a pouch of shiny island crystals left behind. Work out the fraction of the blue crystals to find the final hideout.

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:

$1/5 \text{ of } 50 = \boxed{}$

$6/8 \text{ of } 4 = \boxed{}$

$1/8 \text{ of } 88 = \boxed{}$

$3/5 \text{ of } 20 = \boxed{}$

$3/6 \text{ of } 2 = \boxed{}$

$1/5 \text{ of } 20 = \boxed{}$

$2/4 \text{ of } 16 = \boxed{}$

$5/6 \text{ of } 6 = \boxed{}$

$2/5 \text{ of } 15 = \boxed{}$

$1/8 \text{ of } 56 = \boxed{}$

$2/4 \text{ of } 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swings across the clouds on a rope, then snatches a map of the floating reefs.
2. The villain escapes through a secret trapdoor, then accidentally triggers the storm alarm.
3. The villain darts behind a giant steam pipe, then knocks over a stack of empty crates.
4. The villain darts behind a giant steam pipe, then accidentally triggers the storm alarm.
5. The villain slides down the anchor line, then snatches a map of the floating reefs.
6. The villain swings across the clouds on a rope, then drops a trail of glittery sky dust.
7. The villain slides down the anchor line, then knocks over a stack of empty crates.
8. The villain zooms away on a rusty glider, then drops a trail of glittery sky dust.
9. The villain darts behind a giant steam pipe, then leaves behind a muddy boot print.
10. The villain swings across the clouds on a rope, then accidentally triggers the storm alarm.
11. The villain slides down the anchor line, then leaves behind a muddy boot print.
12. The villain zooms away on a rusty glider, then knocks over a stack of empty crates.

Answer Key

The Cloud Island Caper

Culprit: Mac

zip-line gloves · star badge · writes with left hand · blond hair · coconut drops

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE THIEF DOES NOT HAVE THE WIND BADGE"

$\frac{1}{5}$ of 15 = 3 (T) · $\frac{2}{4}$ of 76 = 38 (N) · $\frac{1}{4}$ of 136 = 34 (W) · $\frac{1}{8}$ of 96 = 12 (A) · $\frac{5}{10}$ of 8 = 4 (V) · $\frac{1}{3}$ of 57 = 19 (H) · $\frac{1}{8}$ of 88 = 11 (O) · $\frac{1}{10}$ of 80 = 8 (E) · $\frac{1}{4}$ of 148 = 37 (B) · $\frac{1}{5}$ of 35 = 7 (G) · $\frac{2}{6}$ of 99 = 33 (S) · $\frac{4}{6}$ of 21 = 14 (D) · $\frac{4}{8}$ of 46 = 23 (F) · $\frac{1}{4}$ of 124 = 31 (I)

Clue 2 (Rounding): "THE SUSPECT WRITES WITH THEIR LEFT HAND"

Round 46 to the nearest ten = 50 (T) · Round 74 to the nearest ten = 70 (U) · Round 3,177 to the nearest thousand = 3000 (C) · Round 1,732 to the nearest hundred = 1700 (D) · Round 4,276 to the nearest hundred = 4300 (H) · Round 2,284 to the nearest hundred = 2300 (A) · Round 227 to the nearest ten = 230 (I) · Round 154 to the nearest hundred = 200 (S) · Round 89 to the nearest ten = 90 (R) · Round 110 to the nearest ten = 110 (N) · Round 7,120 to the nearest thousand = 7000 (P) · Round 286 to the nearest ten = 290 (W) · Round 23 to the nearest ten = 20 (E) · Round 702 to the nearest hundred = 700 (L) · Round 461 to the nearest hundred = 500 (F)

Clue 3 (Addition): "THEY DROPPED A STICKY COCONUT DROP"

$4684 + 3827 = 8511$ (T) · $2918 + 3406 = 6324$ (E) · $3807 + 2870 = 6677$ (D) · $2166 + 2400 = 4566$ (H) · $1499 + 1381 = 2880$ (U) · $2781 + 4207 = 6988$ (C) · $2118 + 4853 = 6971$ (R) · $6082 + 3593 = 9675$ (I) · $1329 + 1896 = 3225$ (K) · $1926 + 3770 = 5696$ (P) · $2118 + 1478 = 3596$ (S) · $5227 + 3488 = 8715$ (A) · $1247 + 1695 = 2942$ (O) · $2080 + 4467 = 6547$ (Y) · $4430 + 3845 = 8275$ (N)

Clue 4 (Subtraction): "WE FOUND STRANDS OF SHINY BLOND HAIR"

$10393 - 3318 = 7075$ (W) · $7194 - 4569 = 2625$ (Y) · $7328 - 4713 = 2615$ (T) · $9363 - 3999 = 5364$ (S) · $11940 - 4904 = 7036$ (R) · $9506 - 1121 = 8385$ (O) · $1888 - 703 = 1185$ (N) · $7115 - 890 = 6225$ (D) · $9090 - 2877 = 6213$ (A) · $6356 - 2276 = 4080$ (B) · $9004 - 40 = 8964$ (F) · $7128 - 4968 = 2160$ (E) · $4503 - 407 = 4096$ (L) · $6211 - 881 = 5330$ (H) · $8012 - 4391 = 3621$ (I) · $5135 - 2440 = 2695$ (U)

Clue 5 (Fractions of a number): surviving statement is box 9 → Mac

$\frac{1}{5}$ of 50 = 10 · $\frac{6}{8}$ of 4 = 3 · $\frac{1}{8}$ of 88 = 11 · $\frac{3}{5}$ of 20 = 12 · $\frac{3}{6}$ of 2 = 1 · $\frac{1}{5}$ of 20 = 4 · $\frac{2}{4}$ of 16 = 8 · $\frac{5}{6}$ of 6 = 5 · $\frac{2}{5}$ of 15 = 6 · $\frac{1}{8}$ of 56 = 7 · $\frac{2}{4}$ of 4 = 2