



The Sky Island Compass Chase

Grade 5 math · Rounding, Place value, Fractions of a number, Order of operations, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone has sneaked into the High Cloud Library and swapped the legendary Golden Compass with a fake copper one! The Chief Archivist needs your help to track down the rival explorer who did it before they sail off into the sunset. Use your map and match the clues to catch them!

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 rival explorer is _____

Possible suspects

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

NAME	PRIMARY TOOL	SPECIAL GADGET	GLOVE HAND	HEADWEAR COLOR	FAVORITE SNACK
Kira	glider wings	magnet boots	right handed glove	neon green goggles	maple candy
Jack	glider wings	spark sparkler	right handed glove	sky blue bandana	sour apple chew
Leo	pocket radar	spark sparkler	left handed glove	sky blue bandana	sour apple chew
Alex	pocket radar	smoke bomb	right handed glove	neon green goggles	salty popcorn
Brooke	rope launcher	wind whistle	right handed glove	neon green goggles	sour apple chew
Hugo	glider wings	spark sparkler	left handed glove	neon green goggles	sour apple chew
Cody	pocket radar	magnet boots	right handed glove	sky blue bandana	salty popcorn
Finn	rope launcher	wind whistle	left handed glove	sky blue bandana	sour apple chew
Olivia	glider wings	magnet boots	left handed glove	bright red cap	maple candy
Baron	grappling hook	smoke bomb	right handed glove	sky blue bandana	sour apple chew
Iris	pocket radar	magnet boots	left handed glove	neon green goggles	salty popcorn
Nate	glider wings	magnet boots	right handed glove	bright red cap	maple candy
Pete	glider wings	bubble blaster	right handed glove	sky blue bandana	sour apple chew
Ellie	pocket radar	magnet boots	right handed glove	bright red cap	sour apple chew
Quinn	pocket radar	spark sparkler	right handed glove	bright red cap	salty popcorn
Ruby	rope launcher	magnet boots	right handed glove	sky blue bandana	sour apple chew
Mia	pocket radar	wind whistle	left handed glove	bright red cap	sour apple chew
Danny	glider wings	magnet boots	right handed glove	sky blue bandana	sour apple chew
Grace	pocket radar	bubble blaster	right handed glove	bright red cap	sour apple chew
Sam	sky binocular	wind whistle	right handed glove	neon green goggles	maple candy
Cole	pocket radar	smoke bomb	right handed glove	bright red cap	maple candy

CLUE 1

The airport radar only tracks rounded distance numbers to the nearest ten. Round the cloud distance to find the route.

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

The diagram consists of two rows of boxes, each with a number below it. The top row has 14 boxes, and the bottom row has 12 boxes. In the top row, the first box (2300) and the eighth box (2300) are highlighted in orange and contain the letter 'T'. In the bottom row, the eighth box (2300) is highlighted in orange and contains the letter 'T'.

2300	110	170	1100	9000	230	7000	50	4300	500	170	30	900	500	2300	70	30	170	7000
300	70	300	300	50	170	300	50	7000	30	2300	170	1100						

Round 2,291 to the nearest hundred $\rightarrow$ **T**

Round 6,968 to the nearest thousand $\rightarrow$ **A**

Round 29 to the nearest ten $\rightarrow$ **S**

Round 498 to the nearest hundred $\rightarrow$

Round 338 to the nearest hundred → **B**

Round 947 to the nearest hundred $\rightarrow$ **N**

Round 71 to the nearest ten $\rightarrow$ **U**

Round 228 to the nearest ten $\rightarrow$ **V**

Round 4,254 to the nearest hundred → **D**

Round 109 to the nearest ten $\rightarrow$ **H**

Round 47 to the nearest ten $\rightarrow$ **L**

Round 169 to the nearest ten → **E**

Round 8,905 to the nearest thousand $\rightarrow$

Round 1,120 to the nearest hundred $\rightarrow$ **R**

Scratch space:

CLUE 2 Place value

The safe lock uses place value code keys. Look at the digit in the hundreds place of the coordinate to unlock the box.

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

T																
200	5000	10	8000	800	2000	3000	600	500	8000	9000	900	900	10	500	3000	
				T												
8000	800	6000	5000	200	5000	3000	80	500	10	500	6000	600	9000	2000	10	

What is the value of the 2 in 55,251? → **T**

What is the value of the 2 in 902,434? → **V**

What is the value of the 8 in 311,851? → **I**

What is the value of the 3 in 563,570? → **A**

What is the value of the 6 in 86,445? → **G**

What is the value of the 9 in 689,677? → **O**

What is the value of the 8 in 208,256? → **R**

What is the value of the 9 in 38,975? → **P**

What is the value of the 5 in 895,264? → **H**

What is the value of the 6 in 153,692? → **L**

What is the value of the 1 in 805,318? → **E**

What is the value of the 8 in 94,282? → **N**

What is the value of the 5 in 76,502? → **D**

Scratch space:

CLUE 3
Fractions of a number

A flock of sky birds ate part of our berry supply. Solve for the fraction of remaining berries to find where they flew.

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

W															
12	25	20	5	32	15	8	37	36	25	25	15	38	5	32	36

							W							
2	19	19	3	25	6	26	25	12	6	36	32	27	24	38

$2/10 \text{ of } 60 = \square \rightarrow \text{W}$

$4/8 \text{ of } 50 = \square \rightarrow \text{E}$

$1/5 \text{ of } 30 = \square \rightarrow \text{C}$

$1/5 \text{ of } 130 = \square \rightarrow \text{H}$

$2/5 \text{ of } 60 = \square \rightarrow \text{B}$

$1/6 \text{ of } 18 = \square \rightarrow \text{L}$

$1/6 \text{ of } 30 = \square \rightarrow \text{O}$

$2/10 \text{ of } 190 = \square \rightarrow \text{S}$

$6/10 \text{ of } 25 = \square \rightarrow \text{N}$

$6/8 \text{ of } 48 = \square \rightarrow \text{R}$

$2/10 \text{ of } 185 = \square \rightarrow \text{G}$

$4/8 \text{ of } 54 = \square \rightarrow \text{M}$

$1/10 \text{ of } 190 = \square \rightarrow \text{P}$

$4/10 \text{ of } 5 = \square \rightarrow \text{A}$

$4/6 \text{ of } 48 = \square \rightarrow \text{U}$

$1/4 \text{ of } 80 = \square \rightarrow \text{F}$

$1/5 \text{ of } 40 = \square \rightarrow \text{D}$

Scratch space:

CLUE 4
Order of operations

The steam engine requires a specific sequence of pressures. Follow the order of operations to solve the pressure dial.

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

A														
23	14	40	19	57	19	32	55	10	26	56	65	6	79	19
						A								
57	6	32	35	22	27	23	10	6	19	55	35	65	19	22

$4 \times 10 - 17 = \square \rightarrow \text{A}$

$12 \times 9 - 29 = \square \rightarrow \text{U}$

$7 \times 12 - 28 = \square \rightarrow \text{Y}$

$7 \times 9 - 8 = \square \rightarrow \text{F}$

$51 + 3 \times 2 = \square \rightarrow \text{C}$

$7 \times 4 - 9 = \square \rightarrow \text{E}$

$5 \times 9 - 5 = \square \rightarrow \text{I}$

$10 \times 6 - 28 = \square \rightarrow \text{O}$

$11 + 3 \times 8 = \square \rightarrow \text{T}$

$2 + 2 \times 4 = \square \rightarrow \text{S}$

$3 + 3 \times 8 = \square \rightarrow \text{W}$

$10 \times 4 - 14 = \square \rightarrow \text{K}$

$9 \times 8 - 21 = \square \rightarrow \text{N}$

$9 \times 11 - 23 = \square \rightarrow \text{D}$

$12 \times 3 - 14 = \square \rightarrow \text{H}$

$9 + 7 \times 8 = \square \rightarrow \text{B}$

$12 \times 2 - 18 = \square \rightarrow \text{L}$

$5 \times 3 - 1 = \square \rightarrow \text{P}$

Scratch space:

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

We need to split our golden coins evenly among the rescue team. Divide the treasure to get the final clue location.

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:

$108 \div 12 = \boxed{}$

$84 \div 7 = \boxed{}$

$55 \div 11 = \boxed{}$

$24 \div 4 = \boxed{}$

$18 \div 9 = \boxed{}$

$110 \div 10 = \boxed{}$

$28 \div 4 = \boxed{}$

$32 \div 8 = \boxed{}$

$6 \div 2 = \boxed{}$

$8 \div 8 = \boxed{}$

$40 \div 5 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scanned the foggy horizon, then summoned a sudden gust of wind to sail away.
2. The villain scouted the highest peak, then distracted the guards with bright sparks.
3. The villain scanned the foggy horizon, then distracted the guards with bright sparks.
4. The villain zipped over the canyon, then distracted the guards with bright sparks.
5. The villain swung across the sky bridge, then escaped in a cloud of thick purple smoke.
6. The villain soared between the clouds, then floated away on a giant soapy bubble.
7. The villain zipped over the canyon, then escaped in a cloud of thick purple smoke.
8. The villain soared between the clouds, then escaped in a cloud of thick purple smoke.
9. The villain zipped over the canyon, then climbed up the metal tower with ease.
10. The villain soared between the clouds, then distracted the guards with bright sparks.
11. The villain swung across the sky bridge, then distracted the guards with bright sparks.
12. The villain soared between the clouds, then climbed up the metal tower with ease.

Answer Key

The Sky Island Compass Chase

Culprit: Jack

glider wings · spark sparkler · right handed glove · sky blue bandana · sour apple chew

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE RIVAL DOES NOT USE A BUBBLE BLASTER"

Round 2,291 to the nearest hundred = 2300 (T) · Round 6,968 to the nearest thousand = 7000 (A) · Round 29 to the nearest ten = 30 (S) · Round 498 to the nearest hundred = 500 (O) · Round 338 to the nearest hundred = 300 (B) · Round 947 to the nearest hundred = 900 (N) · Round 71 to the nearest ten = 70 (U) · Round 228 to the nearest ten = 230 (V) · Round 4,254 to the nearest hundred = 4300 (D) · Round 109 to the nearest ten = 110 (H) · Round 47 to the nearest ten = 50 (L) · Round 169 to the nearest ten = 170 (E) · Round 8,905 to the nearest thousand = 9000 (I) · Round 1,120 to the nearest hundred = 1100 (R)

Clue 2 (Place value): "THE RIVAL DROPPED A RIGHT HANDED GLOVE"

What is the value of the 2 in 55,251? = 200 (T) · What is the value of the 2 in 902,434? = 2000 (V) · What is the value of the 8 in 311,851? = 800 (I) · What is the value of the 3 in 563,570? = 3000 (A) · What is the value of the 6 in 86,445? = 6000 (G) · What is the value of the 9 in 689,677? = 9000 (O) · What is the value of the 8 in 208,256? = 8000 (R) · What is the value of the 9 in 38,975? = 900 (P) · What is the value of the 5 in 895,264? = 5000 (H) · What is the value of the 6 in 153,692? = 600 (L) · What is the value of the 1 in 805,318? = 10 (E) · What is the value of the 8 in 94,282? = 80 (N) · What is the value of the 5 in 76,502? = 500 (D)

Clue 3 (Fractions of a number): "WE FOUND GREEN SOUR APPLE CHEW CRUMBS"

$2/10$ of 60 = 12 (W) · $4/8$ of 50 = 25 (E) · $1/5$ of 30 = 6 (C) · $1/5$ of 130 = 26 (H) · $2/5$ of 60 = 24 (B) · $1/6$ of 18 = 3 (L) · $1/6$ of 30 = 5 (O) · $2/10$ of 190 = 38 (S) · $6/10$ of 25 = 15 (N) · $6/8$ of 48 = 36 (R) · $2/10$ of 185 = 37 (G) · $4/8$ of 54 = 27 (M) · $1/10$ of 190 = 19 (P) · $4/10$ of 5 = 2 (A) · $4/6$ of 48 = 32 (U) · $1/4$ of 80 = 20 (F) · $1/5$ of 40 = 8 (D)

Clue 4 (Order of operations): "A PIECE OF SKY BLUE CLOTH WAS LEFT BEHIND"

$4 \times 10 - 17 = 23$ (A) · $12 \times 9 - 29 = 79$ (U) · $7 \times 12 - 28 = 56$ (Y) · $7 \times 9 - 8 = 55$ (F) · $51 + 3 \times 2 = 57$ (C) · $7 \times 4 - 9 = 19$ (E) · $5 \times 9 - 5 = 40$ (I) · $10 \times 6 - 28 = 32$ (O) · $11 + 3 \times 8 = 35$ (T) · $2 + 2 \times 4 = 10$ (S) · $3 + 3 \times 8 = 27$ (W) · $10 \times 4 - 14 = 26$ (K) · $9 \times 8 - 21 = 51$ (N) · $9 \times 11 - 23 = 76$ (D) · $12 \times 3 - 14 = 22$ (H) · $9 + 7 \times 8 = 65$ (B) · $12 \times 2 - 18 = 6$ (L) · $5 \times 3 - 1 = 14$ (P)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Jack

$108 \div 12 = 9$ · $84 \div 7 = 12$ · $55 \div 11 = 5$ · $24 \div 4 = 6$ · $18 \div 9 = 2$ · $110 \div 10 = 11$ · $28 \div 4 = 7$ · $32 \div 8 = 4$ · $6 \div 2 = 3$ · $8 \div 8 = 1$ · $40 \div 5 = 8$