

The Cloud Kingdom Caper

Grade 4 math · Place value, Addition, Subtraction, Multiplication, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

The legendary Golden Compass has been snatched from the Chief Mapmaker's high-flying workshop! We must gather clues across the floating islands to track down the Sky Bandit.

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 Sky Bandit is _____

Possible suspects

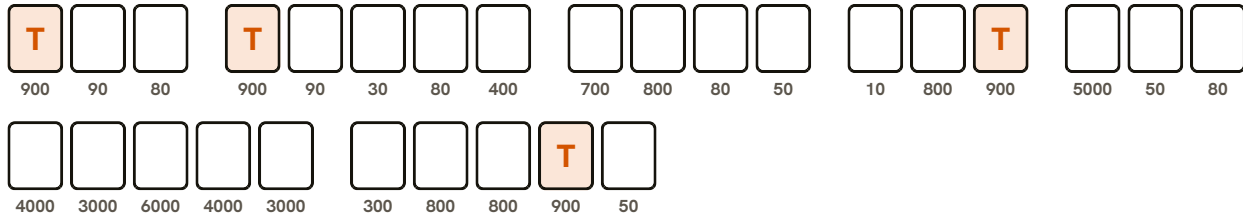
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	AIRSHIP PILOT GEAR	SECRET GADGET	EYE GEAR	HAIR COLOR	FEAR
Kai	Wind Sail	Net Launcher	Brass Goggles	Curly Green	Shiny Mirrors
Milo	Storm Engine	Smoke Bomb	Tinted Visor	Curly Green	Wild Flowers
Sully	Grapple Hook	Net Launcher	Brass Goggles	Curly Green	Shiny Mirrors
Luna	Wind Sail	Flash Light	Brass Goggles	Curly Green	Shiny Mirrors
Finn	Storm Engine	Zip Line	Brass Goggles	Curly Green	Wild Flowers
Jax	Storm Engine	Flash Light	Brass Goggles	Curly Green	Shiny Mirrors
Otis	Cloud Glider	Magma Boots	Brass Goggles	Curly Green	Wild Flowers
Nora	Storm Engine	Flash Light	Brass Goggles	Curly Green	Wild Flowers
Marco	Wind Sail	Smoke Bomb	Brass Goggles	Spiky Blue	Wild Flowers
Leo	Turbo Prop	Flash Light	Tinted Visor	Spunky Red	Squeaky Toys
Maya	Cloud Glider	Zip Line	Brass Goggles	Curly Green	Shiny Mirrors
Drake	Wind Sail	Flash Light	Brass Goggles	Curly Green	Wild Flowers
Skye	Cloud Glider	Zip Line	Tinted Visor	Curly Green	Shiny Mirrors
Dash	Turbo Prop	Magma Boots	Tinted Visor	Spunky Red	Shiny Mirrors
Indiana	Storm Engine	Smoke Bomb	Tinted Visor	Curly Green	Shiny Mirrors
Ezra	Grapple Hook	Net Launcher	Brass Goggles	Curly Green	Squeaky Toys
Hazel	Storm Engine	Net Launcher	Brass Goggles	Curly Green	Wild Flowers
Clara	Wind Sail	Magma Boots	Tinted Visor	Spiky Blue	Wild Flowers
Lara	Cloud Glider	Net Launcher	Tinted Visor	Spunky Red	Wild Flowers
Amelia	Grapple Hook	Net Launcher	Tinted Visor	Spunky Red	Squeaky Toys
Barby	Cloud Glider	Net Launcher	Brass Goggles	Spunky Red	Shiny Mirrors

CLUE 1 Place value

To track the airship, we must look at the digital coordinate dial. We need to find the value of the digit in the tens place.

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



What is the value of the 9 in 953? → **T**

What is the value of the 3 in 5,037? → **I**

What is the value of the 6 in 26,981? → **G**

What is the value of the 3 in 43,077? → **A**

What is the value of the 3 in 357? → **B**

What is the value of the 8 in 839? → **O**

What is the value of the 9 in 6,093? → **H**

What is the value of the 8 in 4,789? → **E**

What is the value of the 1 in 2,518? → **N**

What is the value of the 7 in 760? → **D**

What is the value of the 5 in 5,738? → **U**

What is the value of the 4 in 5,499? → **F**

What is the value of the 4 in 34,979? → **M**

What is the value of the 5 in 7,156? → **S**

Scratch space:

CLUE 2 Addition

We found a pile of dropped map scrolls in the forest. Let us add them all up to see how many the thief took.

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

T																			
8922	2228	9092	7771	7382	8342	8342	8761	7382	3546	9182	9092	8761	6509	7423	9184	6509	8761	7423	7423

6492	5605	6492	6492	8342	9092	7423

$3984 + 4938 = \square \rightarrow \mathbf{T}$	$3753 + 4589 = \square \rightarrow \mathbf{L}$	$5908 + 2853 = \square \rightarrow \mathbf{A}$
$2161 + 1385 = \square \rightarrow \mathbf{N}$	$5091 + 2680 = \square \rightarrow \mathbf{V}$	$5935 + 3249 = \square \rightarrow \mathbf{B}$
$4441 + 4651 = \square \rightarrow \mathbf{E}$	$3627 + 2865 = \square \rightarrow \mathbf{G}$	$805 + 1423 = \square \rightarrow \mathbf{H}$
$3754 + 5428 = \square \rightarrow \mathbf{W}$	$3119 + 4263 = \square \rightarrow \mathbf{I}$	$2342 + 4167 = \square \rightarrow \mathbf{R}$
$1716 + 3889 = \square \rightarrow \mathbf{O}$	$4451 + 2972 = \square \rightarrow \mathbf{S}$	

Scratch space:

CLUE 3

Subtraction

The bandit's fuel tank is leaking. If we subtract the spilled fuel from the total, we will know how far they can fly.

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

A														
7050	2041	2041	6064	3948	3371	7802	3055	7206	5744	3693	7802	2041	6802	

5829	2041	5744	3693	6064	3948	5210

$11948 - 4898 = \square \rightarrow \boxed{\text{A}}$

$6918 - 854 = \square \rightarrow \boxed{\text{E}}$

$7703 - 497 = \square \rightarrow \boxed{\text{T}}$

$4932 - 984 = \square \rightarrow \boxed{\text{R}}$

$10025 - 4815 = \square \rightarrow \boxed{\text{S}}$

$8070 - 1268 = \square \rightarrow \boxed{\text{D}}$

$10270 - 2468 = \square \rightarrow \boxed{\text{I}}$

$6440 - 4399 = \square \rightarrow \boxed{\text{L}}$

$5327 - 2272 = \square \rightarrow \boxed{\text{C}}$

$4854 - 1483 = \square \rightarrow \boxed{\text{G}}$

$8416 - 2587 = \square \rightarrow \boxed{\text{F}}$

$4295 - 602 = \square \rightarrow \boxed{\text{W}}$

$9507 - 3763 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The thief left footprints in even rows across the sandy cloud. Let us multiply the rows by the columns to count them.

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

L							L										
7	66	30	70	10	100	88	7	55	22	88	66	66	80	77	108	144	88

$7 \times 1 = \square \rightarrow \boxed{\text{L}}$

$6 \times 11 = \square \rightarrow \boxed{\text{E}}$

$10 \times 3 = \square \rightarrow \boxed{\text{F}}$

$7 \times 11 = \square \rightarrow \boxed{\text{H}}$

$10 \times 10 = \square \rightarrow \boxed{\text{U}}$

$12 \times 9 = \square \rightarrow \boxed{\text{A}}$

$2 \times 5 = \square \rightarrow \boxed{\text{C}}$

$2 \times 11 = \square \rightarrow \boxed{\text{G}}$

$8 \times 10 = \square \rightarrow \boxed{\text{N}}$

$5 \times 11 = \square \rightarrow \boxed{\text{Y}}$

$12 \times 12 = \square \rightarrow \boxed{\text{I}}$

$7 \times 10 = \square \rightarrow \boxed{\text{T}}$

$8 \times 11 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 5**Missing addends - the last clue**

The cargo scale needs to balance. We know the total weight, so we must find the missing weight of the stolen compass.

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:

$40 + \underline{\quad} = 50$

$14 + \underline{\quad} = 25$

$3 + \underline{\quad} = 7$

$39 + \underline{\quad} = 47$

$5 + \underline{\quad} = 12$

$13 + \underline{\quad} = 22$

$22 + \underline{\quad} = 24$

$40 + \underline{\quad} = 43$

$26 + \underline{\quad} = 38$

$9 + \underline{\quad} = 10$

$30 + \underline{\quad} = 35$

Step 2 - cross out the sentence with each answer:

1. The villain blasted away with a Storm Engine, then dropped a Smoke Bomb to hide.
2. The villain sailed the breeze on a Wind Sail, then fired a Net Launcher to escape.
3. The villain sailed the breeze on a Wind Sail, then dropped a Smoke Bomb to hide.
4. The villain blasted away with a Storm Engine, then fired a Net Launcher to escape.
5. The villain swung through the air with a Grapple Hook, then fired a Net Launcher to escape.
6. The villain blasted away with a Storm Engine, then shined a bright Flash Light.
7. The villain zoomed off on a Cloud Glider, then stomped down using Magma Boots.
8. The villain sailed the breeze on a Wind Sail, then slid down a Zip Line.
9. The villain swung through the air with a Grapple Hook, then shined a bright Flash Light.
10. The villain sailed the breeze on a Wind Sail, then shined a bright Flash Light.
11. The villain blasted away with a Storm Engine, then slid down a Zip Line.
12. The villain sped away using a Turbo Prop, then stomped down using Magma Boots.

Answer Key

The Cloud Kingdom Caper

Culprit: Nora

Storm Engine · Flash Light · Brass Goggles · Curly Green · Wild Flowers

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE MAGMA BOOTS"

What is the value of the 9 in 953? = 900 (T) · What is the value of the 3 in 5,037? = 30 (I) · What is the value of the 6 in 26,981? = 6000 (G) · What is the value of the 3 in 43,077? = 3000 (A) · What is the value of the 3 in 357? = 300 (B) · What is the value of the 8 in 839? = 800 (O) · What is the value of the 9 in 6,093? = 90 (H) · What is the value of the 8 in 4,789? = 80 (E) · What is the value of the 1 in 2,518? = 10 (N) · What is the value of the 7 in 760? = 700 (D) · What is the value of the 5 in 5,738? = 5000 (U) · What is the value of the 4 in 5,499? = 400 (F) · What is the value of the 4 in 34,979? = 4000 (M) · What is the value of the 5 in 7,156? = 50 (S)

Clue 2 (Addition): "THE VILLAIN WEARS BRASS GOGGLES"

$3984 + 4938 = 8922$ (T) · $3753 + 4589 = 8342$ (L) · $5908 + 2853 = 8761$ (A) · $2161 + 1385 = 3546$ (N) · $5091 + 2680 = 7771$ (V) · $5935 + 3249 = 9184$ (B) · $4441 + 4651 = 9092$ (E) · $3627 + 2865 = 6492$ (G) · $805 + 1423 = 2228$ (H) · $3754 + 5428 = 9182$ (W) · $3119 + 4263 = 7382$ (I) · $2342 + 4167 = 6509$ (R) · $1716 + 3889 = 5605$ (O) · $4451 + 2972 = 7423$ (S)

Clue 3 (Subtraction): "ALLERGIC TO WILD FLOWERS"

$11948 - 4898 = 7050$ (A) · $6918 - 854 = 6064$ (E) · $7703 - 497 = 7206$ (T) · $4932 - 984 = 3948$ (R) · $10025 - 4815 = 5210$ (S) · $8070 - 1268 = 6802$ (D) · $10270 - 2468 = 7802$ (I) · $6440 - 4399 = 2041$ (L) · $5327 - 2272 = 3055$ (C) · $4854 - 1483 = 3371$ (G) · $8416 - 2587 = 5829$ (F) · $4295 - 602 = 3693$ (W) · $9507 - 3763 = 5744$ (O)

Clue 4 (Multiplication facts (1-12)): "LEFT CURLY GREEN HAIR"

$7 \times 1 = 7$ (L) · $6 \times 11 = 66$ (E) · $10 \times 3 = 30$ (F) · $7 \times 11 = 77$ (H) · $10 \times 10 = 100$ (U) · $12 \times 9 = 108$ (A) · $2 \times 5 = 10$ (C) · $2 \times 11 = 22$ (G) · $8 \times 10 = 80$ (N) · $5 \times 11 = 55$ (Y) · $12 \times 12 = 144$ (I) · $7 \times 10 = 70$ (T) · $8 \times 11 = 88$ (R)

Clue 5 (Missing addends): surviving statement is box 6 → Nora

$40 + \underline{\quad} = 50 = 10$ · $14 + \underline{\quad} = 25 = 11$ · $3 + \underline{\quad} = 7 = 4$ · $39 + \underline{\quad} = 47 = 8$ · $5 + \underline{\quad} = 12 = 7$ · $13 + \underline{\quad} = 22 = 9$ · $22 + \underline{\quad} = 24 = 2$ · $40 + \underline{\quad} = 43 = 3$ · $26 + \underline{\quad} = 38 = 12$ · $9 + \underline{\quad} = 10 = 1$ · $30 + \underline{\quad} = 35 = 5$