



Mystery of the Sky Academy Thief

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

The Golden Compass has vanished from the Grand Airship Academy! A mysterious Sky Thief slipped past the wind guards during the annual Gale Force Balloon Race. As junior scouts, you must track down the culprit before they fly beyond the storm barrier.

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 Thief is _____

Possible suspects

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

NAME	SIGNATURE GEAR	AIRSHIP GADGET	STEERING GRIP	HAIR COLOR	FEAR FACTOR
Grace	Steam Rocket	Signal Flare	Right Hand Grip	Silver Hair	Strong Drafts
Alan	Rope Ladder	Cloud Fogger	Right Hand Grip	Black Hair	Bright Flashes
Laura	Grappling Hook	Wind Gauge	Right Hand Grip	Black Hair	Strong Drafts
Orville	Rope Ladder	Pocket Compass	Right Hand Grip	Silver Hair	Bright Flashes
Diana	Glide Wing	Flash Laser	Right Hand Grip	Silver Hair	Strong Drafts
Steve	Grappling Hook	Wind Gauge	Left Hand Grip	Pink Hair	Bright Flashes
Victor	Grappling Hook	Wind Gauge	Right Hand Grip	Silver Hair	Strong Drafts
Henry	Rope Ladder	Cloud Fogger	Right Hand Grip	Silver Hair	Strong Drafts
Buzz	Grappling Hook	Signal Flare	Right Hand Grip	Silver Hair	Bright Flashes
Nellie	Glide Wing	Pocket Compass	Right Hand Grip	Silver Hair	Loud Sirens
Amelia	Glide Wing	Cloud Fogger	Right Hand Grip	Black Hair	Bright Flashes
Frank	Turbo Boots	Wind Gauge	Right Hand Grip	Pink Hair	Strong Drafts
Arthur	Glide Wing	Flash Laser	Right Hand Grip	Black Hair	Bright Flashes
Wilbur	Turbo Boots	Wind Gauge	Left Hand Grip	Pink Hair	Strong Drafts
Mae	Glide Wing	Wind Gauge	Right Hand Grip	Pink Hair	Bright Flashes
Charles	Glide Wing	Pocket Compass	Right Hand Grip	Black Hair	Bright Flashes
Yuri	Glide Wing	Signal Flare	Left Hand Grip	Silver Hair	Strong Drafts
Sally	Glide Wing	Flash Laser	Left Hand Grip	Pink Hair	Loud Sirens
Marco	Grappling Hook	Signal Flare	Left Hand Grip	Pink Hair	Strong Drafts
Jacques	Rope Ladder	Pocket Compass	Right Hand Grip	Silver Hair	Strong Drafts
Florence	Grappling Hook	Pocket Compass	Right Hand Grip	Pink Hair	Bright Flashes

CLUE 1 Fractions of a number

To rule out one of the airship gadgets, we need to inspect a fraction of the supply crates left behind on the hangar floor.

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

T			T											T				
29	8	18	29	8	26	18	20	36	6	18	33	21	6	29	8	7	17	18
7	23	38	6	30	36	20	6	37	37	18	39							

$\frac{1}{4}$ of 116 = → T	$\frac{2}{10}$ of 185 = → G	$\frac{4}{10}$ of 15 = → O
$\frac{2}{5}$ of 50 = → F	$\frac{2}{10}$ of 35 = → A	$\frac{4}{5}$ of 45 = → D
$\frac{3}{6}$ of 34 = → V	$\frac{1}{8}$ of 64 = → H	$\frac{3}{5}$ of 50 = → U
$\frac{3}{8}$ of 104 = → R	$\frac{3}{6}$ of 52 = → I	$\frac{5}{10}$ of 42 = → N
$\frac{2}{10}$ of 115 = → C	$\frac{2}{8}$ of 152 = → L	$\frac{2}{8}$ of 132 = → S
$\frac{3}{6}$ of 36 = → E		

Scratch space:

CLUE 2
Order of operations

We found an encrypted flight log on the main console. Follow the strict order of operations to crack the code and reveal the pilot grip.

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

T																		
33	47	68	38	12	38	22	68	19	33	38	33	68	68	24	68	79		
12	38	29	53	45	33	47	68	29	24	24	29	45	47	33	47	43	53	79

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

$12 \times 8 - 17 = \square \rightarrow \text{D}$

$7 \times 8 - 27 = \square \rightarrow \text{I}$

$8 \times 11 - 20 = \square \rightarrow \text{E}$

$12 \times 5 - 17 = \square \rightarrow \text{A}$

$7 \times 8 - 3 = \square \rightarrow \text{N}$

$6 \times 7 - 18 = \square \rightarrow \text{R}$

$10 + 4 \times 3 = \square \rightarrow \text{P}$

$12 \times 6 - 27 = \square \rightarrow \text{G}$

$5 \times 4 - 8 = \square \rightarrow \text{U}$

$19 + 7 \times 4 = \square \rightarrow \text{H}$

$1 + 2 \times 9 = \square \rightarrow \text{C}$

$26 + 2 \times 6 = \square \rightarrow \text{S}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

The thief left behind footprints near the gears. Multiply the rows of muddy boot prints to find the clue about their weakness.

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

T																			
84	6	121	60	21	60	54	121	90	84	72	40	70	121	21	54	77	28		
	T																		
60	84	33	36	28	72	11	33	40	50	84	60								

$7 \times 12 = \square \rightarrow \text{T}$

$4 \times 9 = \square \rightarrow \text{O}$

$4 \times 7 = \square \rightarrow \text{N}$

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

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

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

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

$6 \times 9 = \square \rightarrow \text{P}$

$3 \times 11 = \square \rightarrow \text{R}$

$7 \times 3 = \square \rightarrow \text{U}$

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

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

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

$7 \times 10 = \square \rightarrow \text{V}$

$1 \times 11 = \square \rightarrow \text{D}$

$9 \times 8 = \square \rightarrow \text{G}$

Scratch space:

CLUE 4 Rounding

The radar screen is glitching and only shows the suspect's altitude rounded to the nearest ten, which points to their hair color.

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

W																	
500	2000	5000	30	900	9000	370	70	1100	4300	230	2000	2300	7000	290	1100	2300	30 9000
130	7000	2000	430	30	430	110	300	1100	130	70	2000	290	130				

Round 488 to the nearest hundred → **W**

Round 872 to the nearest hundred → **U**

Round 2,292 to the nearest hundred → **R**

Round 290 to the nearest ten → **A**

Round 134 to the nearest ten → **T**

Round 7,270 to the nearest thousand → **H**

Round 294 to the nearest hundred → **P**

Round 67 to the nearest ten → **S**

Round 368 to the nearest ten → **D**

Round 8,687 to the nearest thousand → **N**

Round 33 to the nearest ten → **O**

Round 107 to the nearest ten → **K**

Round 232 to the nearest ten → **V**

Round 4,281 to the nearest hundred → **L**

Round 428 to the nearest ten → **C**

Round 2,060 to the nearest thousand → **E**

Round 1,059 to the nearest hundred → **I**

Round 5,240 to the nearest thousand → **F**

Scratch space:

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

Divide the leftover fuel canisters equally among our patrol squads to unlock the final clue from the steering deck.

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:

$77 \div 11 = \boxed{}$

$3 \div 1 = \boxed{}$

$70 \div 7 = \boxed{}$

$36 \div 4 = \boxed{}$

$80 \div 10 = \boxed{}$

$55 \div 11 = \boxed{}$

$3 \div 3 = \boxed{}$

$24 \div 6 = \boxed{}$

$22 \div 11 = \boxed{}$

$60 \div 5 = \boxed{}$

$11 \div 1 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain climbed down to the platform using a rope ladder, then escaped into the mist using a cloud fogger.
2. The villain soared down from the rafters with a glide wing, then navigated through the storm using a pocket compass.
3. The villain blasted over the Academy walls on a steam rocket, then marked their escape path with a signal flare.
4. The villain sprinted past the guards wearing turbo boots, then marked their escape path with a signal flare.
5. The villain swung across the dock using a grappling hook, then blinded the security cameras with a flash laser.
6. The villain swung across the dock using a grappling hook, then checked the air currents with a wind gauge.
7. The villain soared down from the rafters with a glide wing, then blinded the security cameras with a flash laser.
8. The villain soared down from the rafters with a glide wing, then checked the air currents with a wind gauge.
9. The villain soared down from the rafters with a glide wing, then escaped into the mist using a cloud fogger.
10. The villain climbed down to the platform using a rope ladder, then navigated through the storm using a pocket compass.
11. The villain swung across the dock using a grappling hook, then marked their escape path with a signal flare.
12. The villain blasted over the Academy walls on a steam rocket, then checked the air currents with a wind gauge.

Answer Key

Mystery of the Sky Academy Thief

Culprit: Victor

Grappling Hook · Wind Gauge · Right Hand Grip · Silver Hair · Strong Drafts

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE THIEF DOES NOT HAVE A CLOUD FOGGER"

$\frac{1}{4}$ of 116 = 29 (T) · $\frac{2}{10}$ of 185 = 37 (G) · $\frac{4}{10}$ of 15 = 6 (O) · $\frac{2}{5}$ of 50 = 20 (F) · $\frac{2}{10}$ of 35 = 7 (A) · $\frac{4}{5}$ of 45 = 36 (D) · $\frac{3}{6}$ of 34 = 17 (V) · $\frac{1}{8}$ of 64 = 8 (H) · $\frac{3}{5}$ of 50 = 30 (U) · $\frac{3}{8}$ of 104 = 39 (R) · $\frac{3}{6}$ of 52 = 26 (I) · $\frac{5}{10}$ of 42 = 21 (N) · $\frac{2}{10}$ of 115 = 23 (C) · $\frac{2}{8}$ of 152 = 38 (L) · $\frac{2}{8}$ of 132 = 33 (S) · $\frac{3}{6}$ of 36 = 18 (E)

Clue 2 (Order of operations): "THE SUSPECT STEERED USING THEIR RIGHT HAND"

$12 \times 3 - 3 = 33$ (T) · $12 \times 8 - 17 = 79$ (D) · $7 \times 8 - 27 = 29$ (I) · $8 \times 11 - 20 = 68$ (E) · $12 \times 5 - 17 = 43$ (A) · $7 \times 8 - 3 = 53$ (N) · $6 \times 7 - 18 = 24$ (R) · $10 + 4 \times 3 = 22$ (P) · $12 \times 6 - 27 = 45$ (G) · $5 \times 4 - 8 = 12$ (U) · $19 + 7 \times 4 = 47$ (H) · $1 + 2 \times 9 = 19$ (C) · $26 + 2 \times 6 = 38$ (S)

Clue 3 (Multiplication facts (1-12)): "THE SUSPECT GAVE UP IN STRONG DRAFTS"

$7 \times 12 = 84$ (T) · $4 \times 9 = 36$ (O) · $4 \times 7 = 28$ (N) · $5 \times 10 = 50$ (F) · $3 \times 2 = 6$ (H) · $10 \times 6 = 60$ (S) · $11 \times 11 = 121$ (E) · $6 \times 9 = 54$ (P) · $3 \times 11 = 33$ (R) · $7 \times 3 = 21$ (U) · $10 \times 9 = 90$ (C) · $10 \times 4 = 40$ (A) · $7 \times 11 = 77$ (I) · $7 \times 10 = 70$ (V) · $1 \times 11 = 11$ (D) · $9 \times 8 = 72$ (G)

Clue 4 (Rounding): "WE FOUND SILVER HAIR ON THE COCKPIT SEAT"

Round 488 to the nearest hundred = 500 (W) · Round 872 to the nearest hundred = 900 (U) · Round 2,292 to the nearest hundred = 2300 (R) · Round 290 to the nearest ten = 290 (A) · Round 134 to the nearest ten = 130 (T) · Round 7,270 to the nearest thousand = 7000 (H) · Round 294 to the nearest hundred = 300 (P) · Round 67 to the nearest ten = 70 (S) · Round 368 to the nearest ten = 370 (D) · Round 8,687 to the nearest thousand = 9000 (N) · Round 33 to the nearest ten = 30 (O) · Round 107 to the nearest ten = 110 (K) · Round 232 to the nearest ten = 230 (V) · Round 4,281 to the nearest hundred = 4300 (L) · Round 428 to the nearest ten = 430 (C) · Round 2,060 to the nearest thousand = 2000 (E) · Round 1,059 to the nearest hundred = 1100 (I) · Round 5,240 to the nearest thousand = 5000 (F)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Victor

$77 \div 11 = 7$ · $3 \div 1 = 3$ · $70 \div 7 = 10$ · $36 \div 4 = 9$ · $80 \div 10 = 8$ · $55 \div 11 = 5$ · $3 \div 3 = 1$ · $24 \div 6 = 4$ · $22 \div 11 = 2$ · $60 \div 5 = 12$ · $11 \div 1 = 11$