



The Skyland Sky-Snatched Compass

Grade 6 math · Percentages, Exponents, Order of operations, Multiplication, Division · Reading level grades 5-6

Detective: _____ Date: _____

The legendary Golden Compass has been stolen from the Chief Cartographer's sky-tower! A mysterious Sky Bandit slipped past the wind-turbines, snatched the artifact, and zoomed off into the clouds. We need to analyze the flight deck clues to catch the runaway pirate!

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	PILOT GEAR	SKYSHIP UPGRADE	STEERING HAND	GOGGLES STRAP	ENGINE FLAW
Toby Thorne	Cloud Grappler	Turbo Boosters	Right Handed steering	Laser Blue strap	Leaky fuel line
Jax Colton	Wind Glider	Anchor Claw	Right Handed steering	Neon Orange strap	Leaky fuel line
Zara Finch	Wind Glider	Turbo Boosters	Right Handed steering	Neon Orange strap	Sputtering exhaust
Ryder Cruz	Gravity Boots	Stealth Cloak	Right Handed steering	Neon Orange strap	Loose propeller
Finn Beckett	Wind Glider	Shield Dome	Left Handed steering	Toxic Green strap	Loose propeller
Leo Vance	Helicopter Pack	Turbo Boosters	Right Handed steering	Laser Blue strap	Leaky fuel line
Marco Polo	Jetpack Harness	Anchor Claw	Left Handed steering	Laser Blue strap	Leaky fuel line
Oliver Croft	Gravity Boots	Stealth Cloak	Right Handed steering	Laser Blue strap	Leaky fuel line
Cyrus Drake	Helicopter Pack	Stealth Cloak	Left Handed steering	Neon Orange strap	Loose propeller
Kaelen Voss	Helicopter Pack	Anchor Claw	Left Handed steering	Neon Orange strap	Loose propeller
Phileas Fogg	Gravity Boots	Turbo Boosters	Left Handed steering	Toxic Green strap	Sputtering exhaust
Luna Vance	Helicopter Pack	Stealth Cloak	Right Handed steering	Laser Blue strap	Loose propeller
Sienna Cruz	Cloud Grappler	Stealth Cloak	Right Handed steering	Laser Blue strap	Leaky fuel line
Dash Wilder	Helicopter Pack	Turbo Boosters	Right Handed steering	Toxic Green strap	Loose propeller
Amelia Earhart	Cloud Grappler	Stealth Cloak	Right Handed steering	Laser Blue strap	Sputtering exhaust
Barnaby Swift	Cloud Grappler	Stealth Cloak	Left Handed steering	Toxic Green strap	Sputtering exhaust
Maya Lin	Cloud Grappler	Stealth Cloak	Right Handed steering	Neon Orange strap	Leaky fuel line
Caspian Vance	Cloud Grappler	Anchor Claw	Left Handed steering	Laser Blue strap	Leaky fuel line
Hazel Wu	Wind Glider	Solar Sails	Right Handed steering	Laser Blue strap	Loose propeller
Nellie Bly	Helicopter Pack	Turbo Boosters	Left Handed steering	Neon Orange strap	Leaky fuel line
Aria Vance	Wind Glider	Solar Sails	Right Handed steering	Laser Blue strap	Leaky fuel line

CLUE 1 Percentages

The hangar's backup batteries are running low. Calculate the exact percentage of power remaining to boot up the security scanner.

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

24 13 35 37 44 33 32 7 24 32 12 35 30 33 12 24 3 30 35

30 12 5 44 25 30 44 7 5 30

20% of 120 = $\rightarrow$ **T**

5% of 700 = → **E**

5% of 100 = → **L**

40% of 30 = $\rightarrow$

50% of 26 = $\rightarrow$ **H**

20% of 160 = → **D**

10% of 370 = $\rightarrow$ **B**

$$25\% \text{ of } 120 = \boxed{} \rightarrow \boxed{\text{S}}$$

10% of 70 = $\rightarrow$

5% of 880 = $\rightarrow$ **A**

75% of 4 = $\rightarrow$ **U**

20% of 125 = $\rightarrow$ **R**

75% of 44 = $\rightarrow$ **N**

Scratch space:

CLUE 2 Exponents

The bandit encrypted the hangar's flight logs with a numeric lock. Solve this exponential growth pattern to crack open the flight console.

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

T										T				T				
343	289	49	8	81	8	9	25	16	343	8	81	128	343	27	81	125	324	

								T				T
216	49	27	49	27	16	225	289	343	144	49	128	343

$7^3 = \square \rightarrow$ T	$2^3 = \square \rightarrow$ C	$18^2 = \square \rightarrow$ S	$6^3 = \square \rightarrow$ W
$3^2 = \square \rightarrow$ K	$5^3 = \square \rightarrow$ L	$17^2 = \square \rightarrow$ H	$3^4 = \square \rightarrow$ O
$7^2 = \square \rightarrow$ E	$12^2 = \square \rightarrow$ B	$5^2 = \square \rightarrow$ P	$15^2 = \square \rightarrow$ G
$3^3 = \square \rightarrow$ R	$2^4 = \square \rightarrow$ I	$2^7 = \square \rightarrow$ N	

Scratch space:

CLUE 3
Order of operations

We found a complex sequence of gears controlling the main crane. Run the calculations in the correct order to safely lower the lift.

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

A			A														
16	29	64	16	20	38	40	54	55	46	17	20	46	55	40	20	38	

	A											
76	16	57	38	55	54	29	58	55	63	20	46	53

$7 \times 3 - 5 = \square \rightarrow \text{A}$

$7 + 2 \times 5 = \square \rightarrow \text{G}$

$11 \times 8 - 30 = \square \rightarrow \text{B}$

$39 + 6 \times 3 = \square \rightarrow \text{S}$

$10 \times 8 - 4 = \square \rightarrow \text{W}$

$17 + 3 \times 4 = \square \rightarrow \text{T}$

$9 \times 8 - 26 = \square \rightarrow \text{N}$

$9 \times 4 - 16 = \square \rightarrow \text{I}$

$8 + 8 \times 4 = \square \rightarrow \text{O}$

$10 \times 7 - 15 = \square \rightarrow \text{E}$

$10 \times 9 - 26 = \square \rightarrow \text{R}$

$9 \times 5 - 7 = \square \rightarrow \text{L}$

$29 + 4 \times 6 = \square \rightarrow \text{D}$

$7 \times 11 - 14 = \square \rightarrow \text{H}$

$22 + 8 \times 4 = \square \rightarrow \text{F}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The bandit escaped past several rows of identical cargo crates. Multiply the crates to find how many spots they could have hidden in.

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

A								A								A	
36	55	20	14	7	8	80	28	36	10	110	6	55	7	28	108	36	8
								A									
5	120	80	3	7	8	7	36	80									

$6 \times 6 = \square \rightarrow \text{A}$

$1 \times 8 = \square \rightarrow \text{S}$

$5 \times 11 = \square \rightarrow \text{B}$

$11 \times 10 = \square \rightarrow \text{F}$

$4 \times 5 = \square \rightarrow \text{L}$

$12 \times 10 = \square \rightarrow \text{N}$

$1 \times 6 = \square \rightarrow \text{I}$

$5 \times 1 = \square \rightarrow \text{O}$

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

$2 \times 5 = \square \rightarrow \text{P}$

$1 \times 3 = \square \rightarrow \text{H}$

$9 \times 12 = \square \rightarrow \text{W}$

$10 \times 8 = \square \rightarrow \text{T}$

$7 \times 1 = \square \rightarrow \text{E}$

$2 \times 7 = \square \rightarrow \text{U}$

Scratch space:

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

We need to split our scouting team evenly across the remaining wind currents. Divide the squad to ensure every sky sector is fully covered.

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:

$25 \div 5 = \boxed{}$

$70 \div 7 = \boxed{}$

$24 \div 6 = \boxed{}$

$18 \div 6 = \boxed{}$

$3 \div 3 = \boxed{}$

$18 \div 2 = \boxed{}$

$24 \div 3 = \boxed{}$

$22 \div 2 = \boxed{}$

$70 \div 10 = \boxed{}$

$6 \div 1 = \boxed{}$

$132 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain fires up their jetpack harness to hover over the deck, then engages the turbo boosters for a quick escape.
2. The villain spins up their helicopter pack to rise straight up, then engages the turbo boosters for a quick escape.
3. The villain fires up their jetpack harness to hover over the deck, then powers up the shield dome to block incoming nets.
4. The villain shoots their cloud grapppler to swing between rigging, then engages the turbo boosters for a quick escape.
5. The villain shoots their cloud grapppler to swing between rigging, then activates the stealth cloak to fade into the fog.
6. The villain spins up their helicopter pack to rise straight up, then powers up the shield dome to block incoming nets.
7. The villain unfurls their wind glider to catch a thermal draft, then drops the anchor claw to make a sharp hairpin turn.
8. The villain activates their gravity boots to scale the hull, then drops the anchor claw to make a sharp hairpin turn.
9. The villain activates their gravity boots to scale the hull, then engages the turbo boosters for a quick escape.
10. The villain activates their gravity boots to scale the hull, then activates the stealth cloak to fade into the fog.
11. The villain activates their gravity boots to scale the hull, then powers up the shield dome to block incoming nets.
12. The villain fires up their jetpack harness to hover over the deck, then deploys the solar sails to catch the solar wind.

Answer Key

The Skyland Sky-Snatched Compass

Culprit: Leo Vance

Helicopter Pack · Turbo Boosters · Right Handed steering · Laser Blue strap · Leaky fuel line

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Percentages): "THE BANDIT DOES NOT USE SOLAR SAILS"

20% of 120 = 24 (T) · 5% of 700 = 35 (E) · 5% of 100 = 5 (L) · 40% of 30 = 12 (O) · 50% of 26 = 13 (H) · 20% of 160 = 32 (D) · 10% of 370 = 37 (B) · 25% of 120 = 30 (S) · 10% of 70 = 7 (I) · 5% of 880 = 44 (A) · 75% of 4 = 3 (U) · 20% of 125 = 25 (R) · 75% of 44 = 33 (N)

Clue 2 (Exponents): "THE COCKPIT CONTROLS WERE RIGHT BENT"

$7^3 = 343$ (T) · $2^3 = 8$ (C) · $18^2 = 324$ (S) · $6^3 = 216$ (W) · $3^2 = 9$ (K) · $5^3 = 125$ (L) · $17^2 = 289$ (H) · $3^4 = 81$ (O) · $7^2 = 49$ (E) · $12^2 = 144$ (B) · $5^2 = 25$ (P) · $15^2 = 225$ (G) · $3^3 = 27$ (R) · $2^4 = 16$ (I) · $2^7 = 128$ (N)

Clue 3 (Order of operations): "A TRAIL OF ENGINE OIL WAS LEFT BEHIND"

$7 \times 3 - 5 = 16$ (A) · $7 + 2 \times 5 = 17$ (G) · $11 \times 8 - 30 = 58$ (B) · $39 + 6 \times 3 = 57$ (S) · $10 \times 8 - 4 = 76$ (W) · $17 + 3 \times 4 = 29$ (T) · $9 \times 8 - 26 = 46$ (N) · $9 \times 4 - 16 = 20$ (I) · $8 + 8 \times 4 = 40$ (O) · $10 \times 7 - 15 = 55$ (E) · $10 \times 9 - 26 = 64$ (R) · $9 \times 5 - 7 = 38$ (L) · $29 + 4 \times 6 = 53$ (D) · $7 \times 11 - 14 = 63$ (H) · $22 + 8 \times 4 = 54$ (F)

Clue 4 (Multiplication facts (1-12)): "A BLUE STRAP FIBER WAS ON THE SEAT"

$6 \times 6 = 36$ (A) · $1 \times 8 = 8$ (S) · $5 \times 11 = 55$ (B) · $11 \times 10 = 110$ (F) · $4 \times 5 = 20$ (L) · $12 \times 10 = 120$ (N) · $1 \times 6 = 6$ (I) · $5 \times 1 = 5$ (O) · $4 \times 7 = 28$ (R) · $2 \times 5 = 10$ (P) · $1 \times 3 = 3$ (H) · $9 \times 12 = 108$ (W) · $10 \times 8 = 80$ (T) · $7 \times 1 = 7$ (E) · $2 \times 7 = 14$ (U)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Leo Vance

$25 \div 5 = 5$ · $70 \div 7 = 10$ · $24 \div 6 = 4$ · $18 \div 6 = 3$ · $3 \div 3 = 1$ · $18 \div 2 = 9$ · $24 \div 3 = 8$ · $22 \div 2 = 11$ · $70 \div 10 = 7$ · $6 \div 1 = 6$ · $132 \div 11 = 12$