



The Great Sky Chase

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

Detective: _____ Date: _____

The Golden Compass of Solaria has been stolen from the Grand Observatory! A rogue Sky Bandit snuck past the wind guards, leaving a trail of mysterious clues. As the lead Junior Detective, you must crack the codes, calculate the navigation coordinates, and unmask the thief before they sail off into the endless clouds!

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	FLIGHT GEAR	SPECIAL GADGET	STEERING HAND	HAIR COLOR	SLOWING HAZARD
Baron Barnaby	Grappling Hook	Brass Key	Left Handed	Bright Red Hair	Bright Lights
Sally Sail	Glider Suit	Wind Whistle	Left Handed	Dark Brown Hair	Bright Lights
Cora Cloud	Pocket Compass	Wind Whistle	Left Handed	Dark Brown Hair	Bright Lights
Captain Clara	Rocket Boots	Wind Whistle	Left Handed	Silver Hair	Bright Lights
Piper Pilot	Grappling Hook	Wind Whistle	Right Handed	Bright Red Hair	Strong Gusts
Wendy Wind	Rocket Boots	Spyglass Lens	Left Handed	Dark Brown Hair	Bright Lights
Silas Storm	Grappling Hook	Spyglass Lens	Left Handed	Bright Red Hair	Bright Lights
Hector Horizon	Rocket Boots	Wind Whistle	Left Handed	Dark Brown Hair	Bright Lights
Victor Vapor	Smoke Bombs	Wind Whistle	Right Handed	Bright Red Hair	Strong Gusts
Beatrice Breeze	Rocket Boots	Wind Whistle	Left Handed	Bright Red Hair	Bright Lights
Roger Rover	Glider Suit	Spyglass Lens	Left Handed	Dark Brown Hair	Strong Gusts
Owen Orbit	Glider Suit	Flare Gun	Left Handed	Bright Red Hair	Bright Lights
Arthur Air	Rocket Boots	Spyglass Lens	Left Handed	Bright Red Hair	Bright Lights
Maya Mapmaker	Pocket Compass	Spyglass Lens	Left Handed	Silver Hair	Strong Gusts
Barnaby Blue	Pocket Compass	Brass Key	Right Handed	Bright Red Hair	Bright Lights
Skyler Sky	Rocket Boots	Map Scroll	Left Handed	Dark Brown Hair	Bright Lights
Captain Zack	Rocket Boots	Flare Gun	Left Handed	Bright Red Hair	Loud Alarms
Captain Caleb	Grappling Hook	Wind Whistle	Right Handed	Bright Red Hair	Bright Lights
Maverick Miles	Grappling Hook	Map Scroll	Right Handed	Bright Red Hair	Loud Alarms
Penelope Puff	Grappling Hook	Flare Gun	Left Handed	Dark Brown Hair	Loud Alarms
Gilly Gale	Grappling Hook	Map Scroll	Left Handed	Dark Brown Hair	Loud Alarms

CLUE 1

Fractions of a number

To track the airship's escape route, you examine the fuel tank log. Only a fraction of the fuel was used to fly to the first floating island. Calculate this fraction of the total fuel supply to reveal the first clue!

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

T								T								T			
23	38	22	20	17	40	29	27	23	29	6	22	37	40	6	23	34	37	22	
17	20	33	17	37	37	9	22	24											

$2/4$ of 46 = → T	$2/5$ of 55 = → E	$2/6$ of 111 = → S
$6/8$ of 8 = → O	$2/6$ of 102 = → U	$2/4$ of 54 = → I
$5/6$ of 48 = → N	$2/6$ of 99 = → R	$5/10$ of 58 = → D
$2/6$ of 72 = → Y	$2/10$ of 85 = → A	$1/6$ of 54 = → K
$1/8$ of 160 = → B	$4/10$ of 95 = → H	

Scratch space:

CLUE 2 Order of operations

The observatory's security system is locked behind an ancient sequence of gears. Solve the equation in the exact correct order to unlock the secondary safe and retrieve a witness report.

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

L																			
15	70	80	65	25	45	43	51	33	62	60	43	65	16	53	70	62	70		
80	12	35	43	51	12	43	65	25	70	53	25	70	70	15					

$9 + 2 \times 3 = \square \rightarrow$ L	$7 + 6 \times 6 = \square \rightarrow$ N	$8 \times 11 - 23 = \square \rightarrow$ T
$5 \times 11 - 4 = \square \rightarrow$ D	$3 + 3 \times 3 = \square \rightarrow$ O	$27 + 9 \times 2 = \square \rightarrow$ A
$10 \times 6 - 25 = \square \rightarrow$ U	$11 \times 9 - 19 = \square \rightarrow$ F	$4 \times 11 - 11 = \square \rightarrow$ P
$5 \times 9 - 20 = \square \rightarrow$ H	$40 + 5 \times 6 = \square \rightarrow$ E	$8 \times 10 - 20 = \square \rightarrow$ I
$6 + 2 \times 5 = \square \rightarrow$ S	$41 + 2 \times 6 = \square \rightarrow$ W	$6 \times 12 - 10 = \square \rightarrow$ R

Scratch space:

CLUE 3
Multiplication facts (1-12)

The Sky Bandit dropped a crate of cargo boxes while fleeing. If each box contains the same number of stolen gears, multiply the rows of boxes to find the total and unlock the next piece of evidence.

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

T			T															
40	72	22	40	72	56	22	144	4	121	27	27	9	121	88	22	132	110	49
					T					T								
110	88	56	70	72	40	14	56	70	72	40	27							

$8 \times 5 = \square \rightarrow$ T	$7 \times 7 = \square \rightarrow$ Y	$11 \times 8 = \square \rightarrow$ R
$12 \times 11 = \square \rightarrow$ D	$1 \times 4 = \square \rightarrow$ W	$11 \times 10 = \square \rightarrow$ B
$9 \times 8 = \square \rightarrow$ H	$11 \times 11 = \square \rightarrow$ A	$3 \times 3 = \square \rightarrow$ C
$9 \times 3 = \square \rightarrow$ S	$2 \times 11 = \square \rightarrow$ E	$12 \times 12 = \square \rightarrow$ F
$2 \times 7 = \square \rightarrow$ L	$8 \times 7 = \square \rightarrow$ I	$10 \times 7 = \square \rightarrow$ G

Scratch space:

CLUE 4 Rounding

The airship radar is fuzzy because of the storm clouds. It only displays rounded distances to the nearby ports. Round the radar reading to the nearest mile to pinpoint the bandit's hideout!

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

A				A													
1100	900	370	130	1100	2900	1700	4300	300	290	130	20	430	700	370	130	500	1700
	A				A												
700	1100	20	130	7000	1100	900	90	500	300	370	290	500	700	20	2900	1700	

Round 1,077 to the nearest hundred

→ **A**

Round 549 to the nearest hundred

→ **E**

Round 651 to the nearest hundred

→ **H**

Round 287 to the nearest ten

→ **B**

Round 312 to the nearest hundred

→ **F**

Round 2,930 to the nearest hundred

→ **N**

Round 870 to the nearest hundred

→ **S**

Round 368 to the nearest ten

→ **T**

Round 87 to the nearest ten

→ **L**

Round 7,190 to the nearest thousand

→ **W**

Round 4,343 to the nearest hundred

→ **O**

Round 17 to the nearest ten

→ **I**

Round 1,686 to the nearest hundred

→ **D**

Round 128 to the nearest ten

→ **R**

Round 427 to the nearest ten

→ **G**

Scratch space:

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

A group of sky scouts agreed to share the search grid evenly. Divide the total square miles of sky by the number of scout airships to guide them to the culprit's exact 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:

$8 \div 2 = \boxed{}$

$10 \div 2 = \boxed{}$

$11 \div 1 = \boxed{}$

$72 \div 9 = \boxed{}$

$18 \div 2 = \boxed{}$

$40 \div 4 = \boxed{}$

$48 \div 8 = \boxed{}$

$9 \div 9 = \boxed{}$

$9 \div 3 = \boxed{}$

$7 \div 1 = \boxed{}$

$48 \div 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain soared between the floating islands in a glider suit, then scouted the escape route through a spyglass lens.
2. The villain blasted over the observatory walls with rocket boots, then summoned a helpful breeze with a wind whistle.
3. The villain swung across the canyon using a grappling hook, then unlocked the secret vault with a heavy brass key.
4. The villain swung across the canyon using a grappling hook, then scouted the escape route through a spyglass lens.
5. The villain soared between the floating islands in a glider suit, then fired a bright signal with a flare gun.
6. The villain blasted over the observatory walls with rocket boots, then unlocked the secret vault with a heavy brass key.
7. The villain soared between the floating islands in a glider suit, then summoned a helpful breeze with a wind whistle.
8. The villain soared between the floating islands in a glider suit, then unlocked the secret vault with a heavy brass key.
9. The villain escaped under the cover of thick smoke bombs, then unlocked the secret vault with a heavy brass key.
10. The villain blasted over the observatory walls with rocket boots, then fired a bright signal with a flare gun.
11. The villain blasted over the observatory walls with rocket boots, then scouted the escape route through a spyglass lens.
12. The villain blasted over the observatory walls with rocket boots, then plotted the course on an ancient map scroll.

Answer Key

The Great Sky Chase

Culprit: Beatrice Breeze

Rocket Boots · Wind Whistle · Left Handed · Bright Red Hair · Bright Lights

Trail: Start 21 → Clue 1 19 → Clue 2 15 → Clue 3 10 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE BANDIT DOES NOT USE A BRASS KEY"

$\frac{2}{4}$ of 46 = 23 (T) · $\frac{2}{5}$ of 55 = 22 (E) · $\frac{2}{6}$ of 111 = 37 (S) · $\frac{6}{8}$ of 8 = 6 (O) · $\frac{2}{6}$ of 102 = 34 (U) · $\frac{2}{4}$ of 54 = 27 (I) · $\frac{5}{6}$ of 48 = 40 (N) · $\frac{2}{6}$ of 99 = 33 (R) · $\frac{5}{10}$ of 58 = 29 (D) · $\frac{2}{6}$ of 72 = 24 (Y) · $\frac{2}{10}$ of 85 = 17 (A) · $\frac{1}{6}$ of 54 = 9 (K) · $\frac{1}{8}$ of 160 = 20 (B) · $\frac{4}{10}$ of 95 = 38 (H)

Clue 2 (Order of operations): "LEFT HAND PRINTS WERE FOUND ON THE WHEEL"

$9 + 2 \times 3 = 15$ (L) · $7 + 6 \times 6 = 43$ (N) · $8 \times 11 - 23 = 65$ (T) · $5 \times 11 - 4 = 51$ (D) · $3 + 3 \times 3 = 12$ (O) · $27 + 9 \times 2 = 45$ (A) · $10 \times 6 - 25 = 35$ (U) · $11 \times 9 - 19 = 80$ (F) · $4 \times 11 - 11 = 33$ (P) · $5 \times 9 - 20 = 25$ (H) · $40 + 5 \times 6 = 70$ (E) · $8 \times 10 - 20 = 60$ (I) · $6 + 2 \times 5 = 16$ (S) · $41 + 2 \times 6 = 53$ (W) · $6 \times 12 - 10 = 62$ (R)

Clue 3 (Multiplication facts (1-12)): "THE THIEF WAS SCARED BY BRIGHT LIGHTS"

$8 \times 5 = 40$ (T) · $7 \times 7 = 49$ (Y) · $11 \times 8 = 88$ (R) · $12 \times 11 = 132$ (D) · $1 \times 4 = 4$ (W) · $11 \times 10 = 110$ (B) · $9 \times 8 = 72$ (H) · $11 \times 11 = 121$ (A) · $3 \times 3 = 9$ (C) · $9 \times 3 = 27$ (S) · $2 \times 11 = 22$ (E) · $12 \times 12 = 144$ (F) · $2 \times 7 = 14$ (L) · $8 \times 7 = 56$ (I) · $10 \times 7 = 70$ (G)

Clue 4 (Rounding): "A STRAND OF BRIGHT RED HAIR WAS LEFT BEHIND"

Round 1,077 to the nearest hundred = 1100 (A) · Round 549 to the nearest hundred = 500 (E) · Round 651 to the nearest hundred = 700 (H) · Round 287 to the nearest ten = 290 (B) · Round 312 to the nearest hundred = 300 (F) · Round 2,930 to the nearest hundred = 2900 (N) · Round 870 to the nearest hundred = 900 (S) · Round 368 to the nearest ten = 370 (T) · Round 87 to the nearest ten = 90 (L) · Round 7,190 to the nearest thousand = 7000 (W) · Round 4,343 to the nearest hundred = 4300 (O) · Round 17 to the nearest ten = 20 (I) · Round 1,686 to the nearest hundred = 1700 (D) · Round 128 to the nearest ten = 130 (R) · Round 427 to the nearest ten = 430 (G)

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

$8 \div 2 = 4$ · $10 \div 2 = 5$ · $11 \div 1 = 11$ · $72 \div 9 = 8$ · $18 \div 2 = 9$ · $40 \div 4 = 10$ · $48 \div 8 = 6$ · $9 \div 9 = 1$ · $9 \div 3 = 3$ · $7 \div 1 = 7$ · $48 \div 4 = 12$