



The Mystery of Flight AF Four Four Two Seven

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

Detective: _____ **Date:** _____

During the transatlantic flight of high-tech Jetliner 4427, someone tampered with the navigation controls! Detective, check the passenger log, interview suspects, and solve the math clues to identify the culprit before landing.

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 Saboteur 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	AVIONICS GADGET	WATCH WRIST	FLIGHT CAP COLOR	DISTRACTION TOOL
Specialist Valerie	Sonic Whistle	Static Shock Baton	Left Wrist	Silver Cap	Loud Siren
Dispatcher Hugo	Radar Goggles	Static Shock Baton	Right Wrist	Silver Cap	Cold Air Draft
Navigator Luc	Turbo Boots	Code Decrypter	Right Wrist	Silver Cap	Loud Siren
Mechanic Louis	Wind Glider	Code Decrypter	Left Wrist	Golden Cap	Bright Flashlight
Pilot Mathieu	Radar Goggles	Laser Pointer	Left Wrist	Silver Cap	Loud Siren
Captain Pierre	Radar Goggles	Laser Pointer	Right Wrist	Golden Cap	Loud Siren
Engineer Jean	Sonic Whistle	Code Decrypter	Right Wrist	Navy Cap	Loud Siren
Tech Etienne	Wind Glider	Static Shock Baton	Left Wrist	Navy Cap	Loud Siren
Agent Tristan	Wind Glider	Signal Jammer	Right Wrist	Golden Cap	Bright Flashlight
Attendant Chloe	Wind Glider	Beacon Scanner	Right Wrist	Silver Cap	Loud Siren
Purser Antoine	Jet Pack	Beacon Scanner	Left Wrist	Golden Cap	Cold Air Draft
Steward Benoit	Sonic Whistle	Laser Pointer	Left Wrist	Silver Cap	Cold Air Draft
Guard Gaspard	Jet Pack	Static Shock Baton	Right Wrist	Silver Cap	Loud Siren
Courier Elodie	Turbo Boots	Static Shock Baton	Right Wrist	Golden Cap	Loud Siren
Trainee Manon	Sonic Whistle	Signal Jammer	Right Wrist	Navy Cap	Bright Flashlight
Inspector Romain	Turbo Boots	Beacon Scanner	Left Wrist	Silver Cap	Bright Flashlight
Marshal Camille	Turbo Boots	Signal Jammer	Left Wrist	Silver Cap	Bright Flashlight
Officer Juliette	Turbo Boots	Signal Jammer	Right Wrist	Golden Cap	Bright Flashlight
Tech Henri	Radar Goggles	Beacon Scanner	Right Wrist	Silver Cap	Loud Siren
Agent Jacques	Radar Goggles	Signal Jammer	Right Wrist	Silver Cap	Loud Siren
Specialist Lea	Radar Goggles	Beacon Scanner	Right Wrist	Golden Cap	Loud Siren

CLUE 1 **Addition**

To calculate total cargo crates loaded onto Flight 4427 the crew added up each luggage bay count.

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

7095 3237 2328 3559 6037 2328 3935 8644 6062 3559 4310 3559 9765 2328 9180 7095 5734 4662 5734

6037 9774 7095 4310 3559 2328 3935 3559 4662 2661 6037 3935 3343 9116 3935 8378 8378 2328 5436

$2355 + 4740 = \boxed{} \rightarrow \boxed{\text{T}}$

$2443 + 2219 = \boxed{} \rightarrow \boxed{}$

$1019 + 1642 = \boxed{} \rightarrow \boxed{\text{G}}$

$$1117 + 1211 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$2183 + 3879 = \boxed{} \rightarrow \boxed{\mathbf{Y}}$$

$$2601 + 2835 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$1857 + 2078 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$2890 + 6226 = \boxed{} \rightarrow \boxed{\mathbf{J}}$$

$$2142 + 1095 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$4085 + 4559 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$5237 + 3141 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$1609 + 1734 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$4161 + 1876 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$1710 + 2600 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$2283 + 1276 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5190 + 4575 = \boxed{} \rightarrow \boxed{\text{P}}$$

$2777 + 2957 = \boxed{} \rightarrow \boxed{\text{D}}$

$$5221 + 4553 = \boxed{} \rightarrow \boxed{\mathbf{0}}$$

$3463 + 5717 = \boxed{} \rightarrow \boxed{\text{C}}$

Scratch space:

CLUE 2

Multiplication facts (1-12)

The chief navigator checked the grid coordinates by multiplying rows of flight path dots.

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

T														
7	56	70	21	110	66	66	4	110	81	50	108	6	70	4
		T					T							T
50	4	7	25	56	108	81	7	56	70	6	110	42	56	7
				T										
50	6	110	14	7										

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

$7 \times 6 = \square \rightarrow \boxed{\text{G}}$

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

$11 \times 10 = \square \rightarrow \boxed{\text{I}}$

$7 \times 3 = \square \rightarrow \boxed{\text{V}}$

$4 \times 1 = \square \rightarrow \boxed{\text{A}}$

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

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

$7 \times 8 = \square \rightarrow \boxed{\text{H}}$

$6 \times 1 = \square \rightarrow \boxed{\text{R}}$

$7 \times 2 = \square \rightarrow \boxed{\text{S}}$

$9 \times 9 = \square \rightarrow \boxed{\text{N}}$

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

$10 \times 5 = \square \rightarrow \boxed{\text{W}}$

Scratch space:

Fractions of a number

The flight engineer determined how much remaining jet fuel was left in the wing tanks.

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

6 37 3 12 8 36 36 28 8 20 38 28 4 4 6 10 30 30 3 11

39 16 28 36 10 25 11 4 8 29 3 20

$3/5$ of 10 = $\rightarrow$ **T**

$$2/8 \text{ of } 148 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$\frac{1}{2} \text{ of } 16 = \boxed{} \rightarrow \boxed{\text{I}}$$

4/8 of 56 = → **A**

$4/5$ of $5 = \boxed{} \rightarrow \boxed{\text{S}}$

$\frac{1}{4}$ of 116 = $\rightarrow$ **R**

$$5/10 \text{ of } 72 = \boxed{} \rightarrow \boxed{\text{L}}$$

4/8 of 32 = → **Y**

$3/10$ of 130 = $\rightarrow$ **B**

$\frac{2}{3}$ of 15 = $\rightarrow$

$3/6$ of $6 = \boxed{} \rightarrow \boxed{\text{E}}$

$3/6$ of $22 = \boxed{} \rightarrow \boxed{\text{D}}$

$\frac{1}{2}$ of 40 = $\rightarrow$ **N**

$$4/8 \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$\frac{1}{8} \text{ of } 96 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

2/6 of 114 = → **W**

$2/8$ of 100 = $\rightarrow$ **U**

Scratch space:

CLUE 4
Order of operations

The copilot calculated the exact altitude adjustment using the automated flight formula.

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

E				E			E					E	E						
58	70	57	54	58	36	51	58	30	63	35	51	58	36	58	35	78	41	73	35
					E														
30	35	57	22	70	58	76	51	30	65										

$4 + 9 \times 6 = \square \rightarrow \text{E}$

$7 \times 8 - 20 = \square \rightarrow \text{N}$

$6 \times 11 - 1 = \square \rightarrow \text{P}$

$4 \times 11 - 14 = \square \rightarrow \text{A}$

$8 \times 9 - 2 = \square \rightarrow \text{V}$

$23 + 3 \times 4 = \square \rightarrow \text{S}$

$39 + 2 \times 9 = \square \rightarrow \text{I}$

$8 \times 10 - 26 = \square \rightarrow \text{D}$

$12 + 5 \times 2 = \square \rightarrow \text{L}$

$6 \times 11 - 3 = \square \rightarrow \text{T}$

$67 + 3 \times 2 = \square \rightarrow \text{W}$

$12 \times 8 - 18 = \square \rightarrow \text{H}$

$16 + 5 \times 7 = \square \rightarrow \text{C}$

$60 + 2 \times 8 = \square \rightarrow \text{R}$

$9 \times 7 - 22 = \square \rightarrow \text{O}$

Scratch space:

CLUE 5**Fractions of a number - the last clue**

The air traffic controller analyzed the fraction of delayed flight paths on the radar display.

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:

$4/8 \text{ of } 4 = \boxed{}$

$2/4 \text{ of } 20 = \boxed{}$

$5/10 \text{ of } 24 = \boxed{}$

$5/10 \text{ of } 18 = \boxed{}$

$3/6 \text{ of } 6 = \boxed{}$

$5/10 \text{ of } 16 = \boxed{}$

$1/10 \text{ of } 10 = \boxed{}$

$1/2 \text{ of } 12 = \boxed{}$

$2/4 \text{ of } 8 = \boxed{}$

$2/8 \text{ of } 20 = \boxed{}$

$1/10 \text{ of } 70 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain deployed a wind glider, then aimed a laser pointer.
2. The villain deployed a wind glider, then activated a beacon scanner.
3. The villain scanned with radar goggles, then used a code decrypter.
4. The villain fired up a jet pack, then aimed a laser pointer.
5. The villain scanned with radar goggles, then switched on a signal jammer.
6. The villain scanned with radar goggles, then aimed a laser pointer.
7. The villain kicked on turbo boots, then activated a beacon scanner.
8. The villain blew a sonic whistle, then activated a beacon scanner.
9. The villain blew a sonic whistle, then switched on a signal jammer.
10. The villain kicked on turbo boots, then used a code decrypter.
11. The villain scanned with radar goggles, then activated a beacon scanner.
12. The villain fired up a jet pack, then tapped a static shock baton.

Answer Key

The Mystery of Flight AF Four Four Two Seven

Culprit: Tech Henri

Radar Goggles · Beacon Scanner · Right Wrist · Silver Cap · Loud Siren

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SNEAKY SUSPECT DID NOT USE A SIGNAL JAMMER"

$2355 + 4740 = 7095$ (T) · $2443 + 2219 = 4662$ (I) · $1019 + 1642 = 2661$ (G) · $1117 + 1211 = 2328$ (E) · $2183 + 3879 = 6062$ (Y) · $2601 + 2835 = 5436$ (R) · $1857 + 2078 = 3935$ (A) · $2890 + 6226 = 9116$ (J) · $2142 + 1095 = 3237$ (H) · $4085 + 4559 = 8644$ (K) · $5237 + 3141 = 8378$ (M) · $1609 + 1734 = 3343$ (L) · $4161 + 1876 = 6037$ (N) · $1710 + 2600 = 4310$ (U) · $2283 + 1276 = 3559$ (S) · $5190 + 4575 = 9765$ (P) · $2777 + 2957 = 5734$ (D) · $5221 + 4553 = 9774$ (O) · $3463 + 5717 = 9180$ (C)

Clue 2 (Multiplication facts (1-12)): "THE VILLAIN WORE A WATCH ON THE RIGHT WRIST"

$1 \times 7 = 7$ (T) · $7 \times 6 = 42$ (G) · $11 \times 6 = 66$ (L) · $11 \times 10 = 110$ (I) · $7 \times 3 = 21$ (V) · $4 \times 1 = 4$ (A) · $5 \times 5 = 25$ (C) · $7 \times 10 = 70$ (E) · $7 \times 8 = 56$ (H) · $6 \times 1 = 6$ (R) · $7 \times 2 = 14$ (S) · $9 \times 9 = 81$ (N) · $12 \times 9 = 108$ (O) · $10 \times 5 = 50$ (W)

Clue 3 (Fractions of a number): "THE VILLAIN WAS STOPPED BY A LOUD SIREN"

$\frac{3}{5}$ of 10 = 6 (T) · $\frac{2}{8}$ of 148 = 37 (H) · $\frac{1}{2}$ of 16 = 8 (I) · $\frac{4}{8}$ of 56 = 28 (A) · $\frac{4}{5}$ of 5 = 4 (S) · $\frac{1}{4}$ of 116 = 29 (R) · $\frac{5}{10}$ of 72 = 36 (L) · $\frac{4}{8}$ of 32 = 16 (Y) · $\frac{3}{10}$ of 130 = 39 (B) · $\frac{2}{3}$ of 15 = 10 (O) · $\frac{3}{6}$ of 6 = 3 (E) · $\frac{3}{6}$ of 22 = 11 (D) · $\frac{1}{2}$ of 40 = 20 (N) · $\frac{4}{8}$ of 60 = 30 (P) · $\frac{1}{8}$ of 96 = 12 (V) · $\frac{2}{6}$ of 114 = 38 (W) · $\frac{2}{8}$ of 100 = 25 (U)

Clue 4 (Order of operations): "EVIDENCE AT SCENE SHOWS A SILVER CAP"

$4 + 9 \times 6 = 58$ (E) · $7 \times 8 - 20 = 36$ (N) · $6 \times 11 - 1 = 65$ (P) · $4 \times 11 - 14 = 30$ (A) · $8 \times 9 - 2 = 70$ (V) · $23 + 3 \times 4 = 35$ (S) · $39 + 2 \times 9 = 57$ (I) · $8 \times 10 - 26 = 54$ (D) · $12 + 5 \times 2 = 22$ (L) · $6 \times 11 - 3 = 63$ (T) · $67 + 3 \times 2 = 73$ (W) · $12 \times 8 - 18 = 78$ (H) · $16 + 5 \times 7 = 51$ (C) · $60 + 2 \times 8 = 76$ (R) · $9 \times 7 - 22 = 41$ (O)

Clue 5 (Fractions of a number): surviving statement is box 11 → Tech Henri

$\frac{4}{8}$ of 4 = 2 · $\frac{2}{4}$ of 20 = 10 · $\frac{5}{10}$ of 24 = 12 · $\frac{5}{10}$ of 18 = 9 · $\frac{3}{6}$ of 6 = 3 · $\frac{5}{10}$ of 16 = 8 · $\frac{1}{10}$ of 10 = 1 · $\frac{1}{2}$ of 12 = 6 · $\frac{2}{4}$ of 8 = 4 · $\frac{2}{8}$ of 20 = 5 · $\frac{1}{10}$ of 70 = 7