



The Whispering Pines Fireplane Disaster

Grade 5 math · Addition, Subtraction, Fractions of a number, Place value · Reading level grades 5-6

Detective: _____ **Date:** _____

A massive wildfire is raging through the tall pines of Whispering Pines National Park! Chief Joshua Dax Zeno of the Kid Police Fire-Patrol Station has just discovered that someone is flying a rogue plane over the smoke, dropping dry brush instead of water and making the disaster worse. We need to crack the flight logs and identify the rogue pilot before the entire forest is lost!

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 rogue pilot is _____

Possible suspects

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

NAME	PRIMARY FLIGHT GEAR	AUXILIARY FLIGHT GEAR	FLIGHT PATH OBSERVATION	HELMET COLOR	SYSTEM VULNERABILITY
Ace Horizon	mega water scooper	emergency turbo boosters	flies in left handed circles	lime green helmet	stuck in sticky pine sap
Orville Wright	mega water scooper	retractable solar wings	flies in left handed circles	lime green helmet	blinded by high power flashlights
Jet Aero	dual gel dropper	retractable solar wings	flies in left handed circles	bright yellow helmet	stuck in sticky pine sap
Penny Pilot	mega water scooper	night vision headlights	flies in left handed circles	lime green helmet	blinded by high power flashlights
Gale Force	high velocity wind fan	reinforced steel landing gear	flies in right handed circles	neon orange helmet	stuck in sticky pine sap
Chuck Yeager	high velocity wind fan	emergency turbo boosters	flies in left handed circles	lime green helmet	blinded by high power flashlights
Maverick Cruz	triple chemical foamer	night vision headlights	flies in right handed circles	lime green helmet	blinded by high power flashlights
Zack Zoom	triple chemical foamer	night vision headlights	flies in left handed circles	bright yellow helmet	blinded by high power flashlights
Baron Richthofen	high velocity wind fan	retractable solar wings	flies in left handed circles	lime green helmet	stuck in sticky pine sap
Stormy Skies	high velocity wind fan	reinforced steel landing gear	flies in left handed circles	bright yellow helmet	blinded by high power flashlights
Max Altitude	triple chemical foamer	emergency turbo boosters	flies in right handed circles	lime green helmet	blinded by high power flashlights
Brooke Beacon	high velocity wind fan	magnetic cargo hook	flies in left handed circles	lime green helmet	blinded by high power flashlights
Rex Radar	high velocity wind fan	reinforced steel landing gear	flies in right handed circles	lime green helmet	clogged by thick maple syrup
Charles Lindbergh	thermal heat seeker	emergency turbo boosters	flies in right handed circles	lime green helmet	blinded by high power flashlights
Sally Ride	dual gel dropper	magnetic cargo hook	flies in right handed circles	bright yellow helmet	clogged by thick maple syrup
Amelia Earhart	triple chemical foamer	night vision headlights	flies in left handed circles	neon orange helmet	blinded by high power flashlights
Leo Valiant	mega water scooper	magnetic cargo hook	flies in left handed circles	lime green helmet	blinded by high power flashlights
Wilbur Wright	dual gel dropper	night vision headlights	flies in right handed circles	bright yellow helmet	stuck in sticky pine sap
Cody Copilot	mega water scooper	reinforced steel landing gear	flies in right handed circles	lime green helmet	blinded by high power flashlights
Tex Runway	triple chemical foamer	retractable solar wings	flies in left handed circles	lime green helmet	blinded by high power flashlights
Bessie Coleman	triple chemical foamer	magnetic cargo hook	flies in right handed circles	bright yellow helmet	stuck in sticky pine sap

CLUE 1

Chief Joshua Dax Zeno needs to count the total reserve water barrels in the fire hangar. Add up the barrels in each row to unlock the first clue about the villain's extra gear.

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

Diagram illustrating a sequence of numbers arranged in two rows of boxes. The top row contains 16 boxes, and the bottom row contains 16 boxes. Some boxes are highlighted in orange and contain the letter 'T'.

Top row (left to right):

- Box 1: Orange, contains 'T' (Number: 5337)
- Box 2: White (Number: 5580)
- Box 3: White (Number: 8382)
- Box 4: White (Number: 2562)
- Box 5: White (Number: 9121)
- Box 6: White (Number: 3358)
- Box 7: White (Number: 8301)
- Box 8: White (Number: 8382)
- Box 9: White (Number: 2461)
- Box 10: White (Number: 8514)
- Box 11: White (Number: 8601)
- Box 12: White (Number: 9121)
- Box 13: Orange, contains 'T' (Number: 5337)
- Box 14: White (Number: 5427)
- Box 15: White (Number: 9121)
- Box 16: White (Number: 8382)

Bottom row (left to right):

- Box 1: White (Number: 3070)
- Box 2: White (Number: 9121)
- Box 3: Orange, contains 'T' (Number: 5337)
- Box 4: White (Number: 5580)
- Box 5: White (Number: 3233)
- Box 6: White (Number: 2537)
- Box 7: White (Number: 8382)
- Box 8: White (Number: 8473)
- Box 9: White (Number: 9121)
- Box 10: White (Number: 8601)
- Box 11: White (Number: 3233)
- Box 12: White (Number: 2562)
- Box 13: White (Number: 8201)
- Box 14: White (Number: 8514)
- Box 15: White (Number: 3070)
- Box 16: White (Number: 3358)

$$3010 + 2327 = \boxed{} \rightarrow \mathbf{T}$$

$899 + 1638 = \boxed{} \rightarrow \mathbf{v}$

$2248 + 985 = \boxed{} \rightarrow \boxed{\text{A}}$

$3592 + 1835 = \boxed{} \rightarrow \mathbf{D}$

$847 + 1715 = \boxed{} \rightarrow \mathbf{R}$

$$5550 + 2651 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$5142 + 3372 = \boxed{} \rightarrow \boxed{} \mid$$

$$5720 + 2581 = \boxed{} \rightarrow \boxed{\text{U}}$$

$1453 + 1905 = \boxed{} \rightarrow \mathbf{G}$

$$5611 + 2990 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$4761 + 3712 = \boxed{} \rightarrow \boxed{\text{S}}$$

$1048 + 1413 = \boxed{} \rightarrow \boxed{\text{P}}$

$$1961 + 3619 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$1820 + 1250 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$5280 + 3841 = \boxed{} \rightarrow \boxed{0}$$

$$3831 + 4551 = \boxed{} \rightarrow \boxed{\text{E}}$$

Scratch space:

CLUE 2 Subtraction

We need to calculate how much fuel is left in our patrol chopper. Subtract the burned fuel from the starting tank capacity to reveal the suspect's flight pattern.

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

T								T										
4712	2053	4426	4424	4838	3884	7254	2053	4712	3372	4071	1623	4071	3372	8250	2053	1897	3780	8250

							T	T				
1897	6639	4838	8736	4838	4426	4424	4712	4712	1899	3372	6639	8250

$$7986 - 3274 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$8600 - 4716 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$5933 - 4036 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$12443 - 3707 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$$10403 - 2153 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5531 - 3908 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$9234 - 4808 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$8824 - 4400 = \boxed{} \rightarrow \boxed{\text{F}}$$

$$10128 - 3489 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$6856 - 2785 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$8738 - 4958 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$2819 - 920 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$6178 - 2806 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$10920 - 3666 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$2680 - 627 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$6219 - 1381 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 3
Fractions of a number

A flock of forest birds fled the smoke, and a fraction of them flew west toward the culprit's flight path. Calculate this fraction of the flock to pinpoint the second flight tell.

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

B																
13	7	33	36	14	22	28	15	21	34	14	15	33	36	14	22	34

B														
13	15	33	30	32	38	32	22	14	38	37	33	15	11	22

$4/8 \text{ of } 26 = \square \rightarrow \text{B}$

$1/2 \text{ of } 76 = \square \rightarrow \text{E}$

$2/6 \text{ of } 84 = \square \rightarrow \text{F}$

$1/2 \text{ of } 42 = \square \rightarrow \text{A}$

$4/8 \text{ of } 68 = \square \rightarrow \text{S}$

$1/6 \text{ of } 66 = \square \rightarrow \text{O}$

$1/3 \text{ of } 111 = \square \rightarrow \text{P}$

$1/2 \text{ of } 60 = \square \rightarrow \text{N}$

$2/6 \text{ of } 99 = \square \rightarrow \text{I}$

$1/2 \text{ of } 72 = \square \rightarrow \text{G}$

$1/10 \text{ of } 70 = \square \rightarrow \text{R}$

$4/6 \text{ of } 48 = \square \rightarrow \text{D}$

$7/8 \text{ of } 16 = \square \rightarrow \text{H}$

$3/4 \text{ of } 20 = \square \rightarrow \text{L}$

$4/10 \text{ of } 55 = \square \rightarrow \text{T}$

Scratch space:

CLUE 4 Place value

The suspect's plane left a heavy weight imprint on the muddy runway. Identify the value of the digit in the hundreds place of the weight scale to uncover their gear vulnerability.

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

A																	A	
80	5000	60	20	50	1000	4000	50	50	800	6000	50	5000	20	50	9000	500	80	100
100	200	8000	9000	9000	50	300												

What is the value of the 8 in 934,681? → **A**

What is the value of the 8 in 198,990? → **O**

What is the value of the 9 in 449,561? → **T**

What is the value of the 2 in 61,129? → **M**

What is the value of the 5 in 611,500? → **W**

What is the value of the 1 in 720,187? → **S**

What is the value of the 2 in 408,204? → **P**

What is the value of the 3 in 942,327? → **D**

What is the value of the 6 in 54,261? → **I**

What is the value of the 5 in 669,456? → **E**

What is the value of the 6 in 226,928? → **H**

What is the value of the 1 in 951,288? → **G**

What is the value of the 4 in 274,739? → **R**

What is the value of the 5 in 335,219? → **L**

What is the value of the 8 in 79,877? → **N**

Scratch space:

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

Only a fraction of our foam canisters survived the heat. Find the fraction of the total canisters we can still use to reveal the second gear vulnerability.

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:

$2/5 \text{ of } 30 = \boxed{}$

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

$3/6 \text{ of } 14 = \boxed{}$

$1/5 \text{ of } 30 = \boxed{}$

$4/5 \text{ of } 10 = \boxed{}$

$1/6 \text{ of } 24 = \boxed{}$

$3/8 \text{ of } 8 = \boxed{}$

$1/4 \text{ of } 44 = \boxed{}$

$1/4 \text{ of } 36 = \boxed{}$

$3/6 \text{ of } 2 = \boxed{}$

$4/6 \text{ of } 15 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain drops chemical flame retardant, then hides behind a low mountain ridge.
2. The villain flies dangerously low over the trees, then hides behind a low mountain ridge.
3. The villain scoops up water from the local lake, then zips away above the forest canopy.
4. The villain signals the ground crew with flares, then lands on a secret hidden runway.
5. The villain flies dangerously low over the trees, then zips away above the forest canopy.
6. The villain flies dangerously low over the trees, then escapes into the thick grey smoke.
7. The villain buzzes past the fire watchtower, then zips away above the forest canopy.
8. The villain buzzes past the fire watchtower, then lands on a secret hidden runway.
9. The villain buzzes past the fire watchtower, then heads back to the main airport.
10. The villain buzzes past the fire watchtower, then hides behind a low mountain ridge.
11. The villain flies dangerously low over the trees, then heads back to the main airport.
12. The villain buzzes past the fire watchtower, then escapes into the thick grey smoke.

Answer Key

The Whispering Pines Fireplane Disaster

Culprit: Leo Valiant

mega water scooper · magnetic cargo hook · flies in left handed circles · lime green helmet · blinded by high power flashlights

Trail: Start 21 → Clue 1 17 → Clue 2 8 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE ROGUE PILOT DOES NOT HAVE SOLAR WINGS"

$3010 + 2327 = 5337$ (T) · $899 + 1638 = 2537$ (V) · $2248 + 985 = 3233$ (A) · $3592 + 1835 = 5427$ (D) · $847 + 1715 = 2562$ (R) · $5550 + 2651 = 8201$ (W) · $5142 + 3372 = 8514$ (I) · $5720 + 2581 = 8301$ (U) · $1453 + 1905 = 3358$ (G) · $5611 + 2990 = 8601$ (L) · $4761 + 3712 = 8473$ (S) · $1048 + 1413 = 2461$ (P) · $1961 + 3619 = 5580$ (H) · $1820 + 1250 = 3070$ (N) · $5280 + 3841 = 9121$ (O) · $3831 + 4551 = 8382$ (E)

Clue 2 (Subtraction): "THE FLIGHT RADAR SHOWS ONLY LEFT TURNS"

$7986 - 3274 = 4712$ (T) · $8600 - 4716 = 3884$ (I) · $5933 - 4036 = 1897$ (O) · $12443 - 3707 = 8736$ (Y) · $10403 - 2153 = 8250$ (S) · $5531 - 3908 = 1623$ (D) · $9234 - 4808 = 4426$ (E) · $8824 - 4400 = 4424$ (F) · $10128 - 3489 = 6639$ (N) · $6856 - 2785 = 4071$ (A) · $8738 - 4958 = 3780$ (W) · $2819 - 920 = 1899$ (U) · $6178 - 2806 = 3372$ (R) · $10920 - 3666 = 7254$ (G) · $2680 - 627 = 2053$ (H) · $6219 - 1381 = 4838$ (L)

Clue 3 (Fractions of a number): "BRIGHT FLASHLIGHTS BLINDED THE PILOT"

$4/8$ of 26 = 13 (B) · $1/2$ of 76 = 38 (E) · $2/6$ of 84 = 28 (F) · $1/2$ of 42 = 21 (A) · $4/8$ of 68 = 34 (S) · $1/6$ of 66 = 11 (O) · $1/3$ of 111 = 37 (P) · $1/2$ of 60 = 30 (N) · $2/6$ of 99 = 33 (I) · $1/2$ of 72 = 36 (G) · $1/10$ of 70 = 7 (R) · $4/6$ of 48 = 32 (D) · $7/8$ of 16 = 14 (H) · $3/4$ of 20 = 15 (L) · $4/10$ of 55 = 22 (T)

Clue 4 (Place value): "A LIME GREEN HELMET WAS SPOTTED"

What is the value of the 8 in 934,681? = 80 (A) · What is the value of the 8 in 198,990? = 8000 (O) · What is the value of the 9 in 449,561? = 9000 (T) · What is the value of the 2 in 61,129? = 20 (M) · What is the value of the 5 in 611,500? = 500 (W) · What is the value of the 1 in 720,187? = 100 (S) · What is the value of the 2 in 408,204? = 200 (P) · What is the value of the 3 in 942,327? = 300 (D) · What is the value of the 6 in 54,261? = 60 (I) · What is the value of the 5 in 669,456? = 50 (E) · What is the value of the 6 in 226,928? = 6000 (H) · What is the value of the 1 in 951,288? = 1000 (G) · What is the value of the 4 in 274,739? = 4000 (R) · What is the value of the 5 in 335,219? = 5000 (L) · What is the value of the 8 in 79,877? = 800 (N)

Clue 5 (Fractions of a number): surviving statement is box 5 → Leo Valiant

$2/5$ of 30 = 12 · $4/8$ of 4 = 2 · $3/6$ of 14 = 7 · $1/5$ of 30 = 6 · $4/5$ of 10 = 8 · $1/6$ of 24 = 4 · $3/8$ of 8 = 3 · $1/4$ of 44 = 11 · $1/4$ of 36 = 9 · $3/6$ of 2 = 1 · $4/6$ of 15 = 10