



The Nebula Station Sabotage

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

Detective: _____ **Date:** _____

Someone has swiped the Hyper-Drive Core from Nebula Station Seven, leaving the entire base running on emergency solar sails! The culprit is one of twenty-four rookie astronauts. Detectives, we need to analyze the telemetry logs, decode the clues, and find the real Space Bandit before they warp out of the sector.

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 Space Bandit is _____

Possible suspects

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

NAME	SPACESUIT CLASS	THRUSTER PACK	OXYGEN DIAL	HELMET GLOW	SYSTEM VULNERABILITY
Mark Kelly	Cargo Suit	Solar Wing	Right Hand Gauge	Neon Green Glow	Solar Flares
Kalpana Chawla	Pilot Suit	Ion Boost	Right Hand Gauge	Neon Green Glow	Space Dust
Victor Glover	Cargo Suit	Warp Glide	Left Hand Gauge	Neon Green Glow	EMP Waves
James Lovell	Cargo Suit	Plasma Jet	Left Hand Gauge	Cosmic Blue Glow	EMP Waves
Fred Haise	Tech Suit	Solar Wing	Right Hand Gauge	Cosmic Blue Glow	Solar Flares
Alan Shepard	Tech Suit	Solar Wing	Right Hand Gauge	Crimson Red Glow	Space Dust
John Glenn	Pilot Suit	Quark Drive	Right Hand Gauge	Cosmic Blue Glow	Solar Flares
Neil Armstrong	Tech Suit	Solar Wing	Right Hand Gauge	Cosmic Blue Glow	Space Dust
Jack Swigert	Ranger Suit	Warp Glide	Right Hand Gauge	Crimson Red Glow	Space Dust
Valentina Tereshkova	Science Suit	Solar Wing	Right Hand Gauge	Cosmic Blue Glow	Solar Flares
Michael Collins	Tech Suit	Quark Drive	Right Hand Gauge	Neon Green Glow	Space Dust
Scott Kelly	Ranger Suit	Ion Boost	Right Hand Gauge	Cosmic Blue Glow	Solar Flares
Christina Koch	Tech Suit	Warp Glide	Right Hand Gauge	Cosmic Blue Glow	Solar Flares
Yuri Gagarin	Ranger Suit	Ion Boost	Right Hand Gauge	Cosmic Blue Glow	Space Dust
Jessica Meir	Cargo Suit	Ion Boost	Right Hand Gauge	Neon Green Glow	Space Dust
Sally Ride	Pilot Suit	Plasma Jet	Right Hand Gauge	Cosmic Blue Glow	EMP Waves
Guion Bluford	Tech Suit	Solar Wing	Right Hand Gauge	Neon Green Glow	Solar Flares
Buzz Aldrin	Pilot Suit	Ion Boost	Left Hand Gauge	Neon Green Glow	EMP Waves
Gene Cernan	Pilot Suit	Warp Glide	Right Hand Gauge	Cosmic Blue Glow	Space Dust
Mae Jemison	Cargo Suit	Quark Drive	Left Hand Gauge	Neon Green Glow	EMP Waves
Pete Conrad	Ranger Suit	Ion Boost	Left Hand Gauge	Cosmic Blue Glow	Solar Flares

CLUE 1

The dock radar registered a blurry ship speed. We must round this number to the nearest ten to clear up the sensor feed.

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

370 5000 90 9000 2300 30 230 4300 370 230 430 90 3000 30 430 370 900 3000 90

370 5000 90 50 900 2300 290 700 230 290 4300 110 90

Round 373 to the nearest ten $\rightarrow$ **T**

Round 3,252 to the nearest thousand $\rightarrow$ **S**

Round 53 to the nearest ten → **Q**

Round 293 to the nearest ten $\rightarrow$ **R**

Round 9,266 to the nearest thousand → **B**

Round 4,272 to the nearest hundred $\rightarrow$

Round 234 to the nearest ten $\rightarrow$ **D**

Round 5,160 to the nearest thousand → **H**

Round 723 to the nearest hundred → **K**

Round 917 to the nearest hundred $\rightarrow$ **U**

Round 111 to the nearest ten $\rightarrow$ **V**

Round 29 to the nearest ten → **N**

Round 431 to the nearest ten $\rightarrow$

Round 86 to the nearest ten → **E**

Round 2,293 to the nearest hundred → **A**

Scratch space:

Fractions of a number

The thief jammed the control console. To reboot it, we must calculate a specific fraction of the remaining backup batteries.

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

11 6 5 17 19 36 6 11 6 16 40 34 36 16 8 36 5

T T

2/8 of 44 = → **T**

$$1/10 \text{ of } 170 = \boxed{} \rightarrow \boxed{\text{R}}$$

2/10 of 130 = → **S**

5/6 of 6 = → **E**

$\frac{1}{4}$ of 112 = $\rightarrow$ **F**

$2/3$ of 51 = $\rightarrow$ **D**

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

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

$\frac{1}{6}$ of 96 = $\rightarrow$ **A**

$$2/4 \text{ of } 80 = \boxed{} \rightarrow \boxed{\text{N}}$$

4/10 of 15 = → **H**

$2/10$ of 180 = $\rightarrow$ **G**

$$2/6 \text{ of } 105 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$\frac{1}{5} \text{ of } 95 = \boxed{} \rightarrow \boxed{\text{I}}$$

Scratch space:

CLUE 3

Order of operations

We found a locked data pad containing flight logs. Solve the multi step formula in the correct order to crack the passcode.

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

T																	
10	77	78	22	19	37	47	80	10	56	39	78	47	56	52	14	25	
79	14	39	19	52	56	39	19	52	78	79							

$4 + 3 \times 2 = \square \rightarrow \boxed{\text{T}}$

$60 + 6 \times 3 = \square \rightarrow \boxed{\text{E}}$

$8 \times 11 - 11 = \square \rightarrow \boxed{\text{H}}$

$10 \times 4 - 15 = \square \rightarrow \boxed{\text{M}}$

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

$6 \times 11 - 10 = \square \rightarrow \boxed{\text{F}}$

$7 \times 6 - 23 = \square \rightarrow \boxed{\text{A}}$

$4 + 5 \times 2 = \square \rightarrow \boxed{\text{O}}$

$4 \times 10 - 1 = \square \rightarrow \boxed{\text{L}}$

$9 \times 12 - 29 = \square \rightarrow \boxed{\text{S}}$

$7 \times 9 - 26 = \square \rightarrow \boxed{\text{N}}$

$11 + 9 \times 4 = \square \rightarrow \boxed{\text{D}}$

$9 \times 12 - 28 = \square \rightarrow \boxed{\text{I}}$

$9 \times 9 - 29 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 4
Multiplication facts (1-12)

The crew needs to count the emergency rations left in the storage bays. Multiply the crates by the packs inside each one.

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

W				W											
7	10	15	48	7	48	81	25	15	99	50	81	2	120	72	10
			W												
35	120	25	7	48	132	132	28	10	15	81	10	40	10		

$7 \times 1 = \square \rightarrow \boxed{W}$

$5 \times 7 = \square \rightarrow \boxed{G}$

$6 \times 12 = \square \rightarrow \boxed{U}$

$12 \times 11 = \square \rightarrow \boxed{T}$

$8 \times 6 = \square \rightarrow \boxed{A}$

$9 \times 9 = \square \rightarrow \boxed{C}$

$4 \times 7 = \square \rightarrow \boxed{H}$

$1 \times 10 = \square \rightarrow \boxed{E}$

$10 \times 4 = \square \rightarrow \boxed{N}$

$3 \times 5 = \square \rightarrow \boxed{S}$

$5 \times 10 = \square \rightarrow \boxed{I}$

$12 \times 10 = \square \rightarrow \boxed{L}$

$11 \times 9 = \square \rightarrow \boxed{M}$

$5 \times 5 = \square \rightarrow \boxed{O}$

$2 \times 1 = \square \rightarrow \boxed{B}$

Scratch space:

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

To keep the station steady, we must distribute the remaining fuel equally among the surviving thruster pods.

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:

$28 \div 7 = \boxed{}$

$55 \div 5 = \boxed{}$

$50 \div 10 = \boxed{}$

$60 \div 5 = \boxed{}$

$84 \div 12 = \boxed{}$

$9 \div 1 = \boxed{}$

$90 \div 9 = \boxed{}$

$6 \div 6 = \boxed{}$

$36 \div 12 = \boxed{}$

$72 \div 9 = \boxed{}$

$48 \div 8 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scrambled the radar array, then hid in the cargo pod.
2. The villain bypassed the airlock, then escaped in a scout ship.
3. The villain hacked the bridge console, then drifted past the orbital ring.
4. The villain scrambled the radar array, then drifted past the orbital ring.
5. The villain scrambled the radar array, then warped through an asteroid belt.
6. The villain bypassed the airlock, then drifted past the orbital ring.
7. The villain bypassed the airlock, then hid in the cargo pod.
8. The villain unlocked the hangar bay, then zipped away on a space walk.
9. The villain scrambled the radar array, then zipped away on a space walk.
10. The villain drained the power grid, then zipped away on a space walk.
11. The villain unlocked the hangar bay, then warped through an asteroid belt.
12. The villain hacked the bridge console, then hid in the cargo pod.

Answer Key

The Nebula Station Sabotage

Culprit: Scott Kelly

Ranger Suit · Ion Boost · Right Hand Gauge · Cosmic Blue Glow · Solar Flares

Trail: Start 21 → Clue 1 18 → Clue 2 14 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE BANDIT DOES NOT USE THE QUARK DRIVE"

Round 373 to the nearest ten = 370 (T) · Round 3,252 to the nearest thousand = 3000 (S) · Round 53 to the nearest ten = 50 (Q) · Round 293 to the nearest ten = 290 (R) · Round 9,266 to the nearest thousand = 9000 (B) · Round 4,272 to the nearest hundred = 4300 (I) · Round 234 to the nearest ten = 230 (D) · Round 5,160 to the nearest thousand = 5000 (H) · Round 723 to the nearest hundred = 700 (K) · Round 917 to the nearest hundred = 900 (U) · Round 111 to the nearest ten = 110 (V) · Round 29 to the nearest ten = 30 (N) · Round 431 to the nearest ten = 430 (O) · Round 86 to the nearest ten = 90 (E) · Round 2,293 to the nearest hundred = 2300 (A)

Clue 2 (Fractions of a number): "THE RIGHT HAND GAUGE WAS FLASHING"

$\frac{2}{8}$ of 44 = 11 (T) · $\frac{1}{10}$ of 170 = 17 (R) · $\frac{2}{10}$ of 130 = 26 (S) · $\frac{5}{6}$ of 6 = 5 (E) · $\frac{1}{4}$ of 112 = 28 (F) · $\frac{2}{3}$ of 51 = 34 (D) · $\frac{3}{6}$ of 6 = 3 (W) · $\frac{1}{2}$ of 16 = 8 (U) · $\frac{1}{6}$ of 96 = 16 (A) · $\frac{2}{4}$ of 80 = 40 (N) · $\frac{4}{10}$ of 15 = 6 (H) · $\frac{2}{10}$ of 180 = 36 (G) · $\frac{2}{6}$ of 105 = 35 (L) · $\frac{1}{5}$ of 95 = 19 (I)

Clue 3 (Order of operations): "THE BANDIT FLED FROM SOLAR FLARES"

$4 + 3 \times 2 = 10$ (T) · $60 \div 6 \times 3 = 78$ (E) · $8 \times 11 - 11 = 77$ (H) · $10 \times 4 - 15 = 25$ (M) · $8 \times 4 - 10 = 22$ (B) · $6 \times 11 - 10 = 56$ (F) · $7 \times 6 - 23 = 19$ (A) · $4 + 5 \times 2 = 14$ (O) · $4 \times 10 - 1 = 39$ (L) · $9 \times 12 - 29 = 79$ (S) · $7 \times 9 - 26 = 37$ (N) · $11 + 9 \times 4 = 47$ (D) · $9 \times 12 - 28 = 80$ (I) · $9 \times 9 - 29 = 52$ (R)

Clue 4 (Multiplication facts (1-12)): "WE SAW A COSMIC BLUE GLOW AT THE SCENE"

$7 \times 1 = 7$ (W) · $5 \times 7 = 35$ (G) · $6 \times 12 = 72$ (U) · $12 \times 11 = 132$ (T) · $8 \times 6 = 48$ (A) · $9 \times 9 = 81$ (C) · $4 \times 7 = 28$ (H) · $1 \times 10 = 10$ (E) · $10 \times 4 = 40$ (N) · $3 \times 5 = 15$ (S) · $5 \times 10 = 50$ (I) · $12 \times 10 = 120$ (L) · $11 \times 9 = 99$ (M) · $5 \times 5 = 25$ (O) · $2 \times 1 = 2$ (B)

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

$28 \div 7 = 4$ · $55 \div 5 = 11$ · $50 \div 10 = 5$ · $60 \div 5 = 12$ · $84 \div 12 = 7$ · $9 \div 1 = 9$ · $90 \div 9 = 10$ · $6 \div 6 = 1$ · $36 \div 12 = 3$ · $72 \div 9 = 8$ · $48 \div 8 = 6$