The Nebula Station Sabotage

Grade 3 math · Multiplication, Rounding, Addition, Subtraction, Division · Reading level grades 7-9

Detective: _____ **Date:** _____

Someone tampered with the main gravity core on Orbital Station Starlight! We must decode the evidence log to identify the culprit before the entire station drifts out of alignment.

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

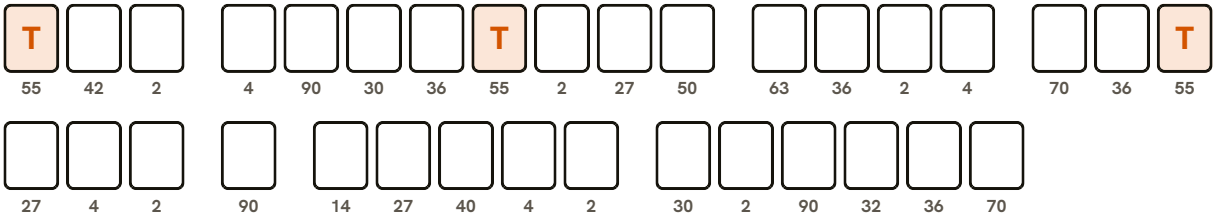
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY GEAR	SECONDARY GEAR	VISOR STYLE	SUIT TRIM	EQUIPMENT FLAW
Alan Shepard	Plasma Cutter	Holo Shield	Polarized Visor	Cosmic Silver Trim	Faulty Thruster Valve
Ellen Ochoa	Laser Welder	Pulse Beacon	Polarized Visor	Neon Blue Trim	Faulty Thruster Valve
Sunita Williams	Plasma Cutter	Pulse Beacon	Polarized Visor	Neon Blue Trim	Jammed Airlock Latch
Peggy Whitson	Laser Welder	Signal Jammer	Clear Visor	Solar Gold Trim	Faulty Thruster Valve
Jessica Meir	Thruster Pack	Holo Shield	Polarized Visor	Neon Blue Trim	Faulty Thruster Valve
Bernard Harris	Gravity Boots	Holo Shield	Polarized Visor	Neon Blue Trim	Faulty Thruster Valve
Scott Kelly	Gravity Boots	Data Pad	Polarized Visor	Cosmic Silver Trim	Faulty Thruster Valve
Sally Ride	Gravity Boots	Pulse Beacon	Clear Visor	Solar Gold Trim	Faulty Thruster Valve
Samantha Cristoforetti	Plasma Cutter	Signal Jammer	Polarized Visor	Cosmic Silver Trim	Glitchy Oxygen Sensor
Leland Melvin	Laser Welder	Holo Shield	Clear Visor	Neon Blue Trim	Faulty Thruster Valve
John Glenn	Laser Welder	Data Pad	Polarized Visor	Neon Blue Trim	Jammed Airlock Latch
Robert Crippen	Plasma Cutter	Pulse Beacon	Clear Visor	Cosmic Silver Trim	Faulty Thruster Valve
Chris Hadfield	Laser Welder	Pulse Beacon	Clear Visor	Solar Gold Trim	Glitchy Oxygen Sensor
Mae Jemison	Thruster Pack	Signal Jammer	Polarized Visor	Solar Gold Trim	Jammed Airlock Latch
Anousheh Ansari	Thruster Pack	Data Pad	Clear Visor	Cosmic Silver Trim	Faulty Thruster Valve
Buzz Aldrin	Magnetic Tether	Thermal Scanner	Polarized Visor	Cosmic Silver Trim	Glitchy Oxygen Sensor
Mark Kelly	Thruster Pack	Holo Shield	Clear Visor	Solar Gold Trim	Glitchy Oxygen Sensor
Guion Bluford	Gravity Boots	Signal Jammer	Polarized Visor	Neon Blue Trim	Faulty Thruster Valve
Christina Koch	Gravity Boots	Signal Jammer	Polarized Visor	Solar Gold Trim	Faulty Thruster Valve
Michael Collins	Gravity Boots	Thermal Scanner	Polarized Visor	Neon Blue Trim	Faulty Thruster Valve
Kalpana Chawla	Laser Welder	Pulse Beacon	Polarized Visor	Cosmic Silver Trim	Jammed Airlock Latch

CLUE 1 Multiplication facts (1-12)

> Analyzing the fuel pod grid, we calculated the total energy output across several identical rows.

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



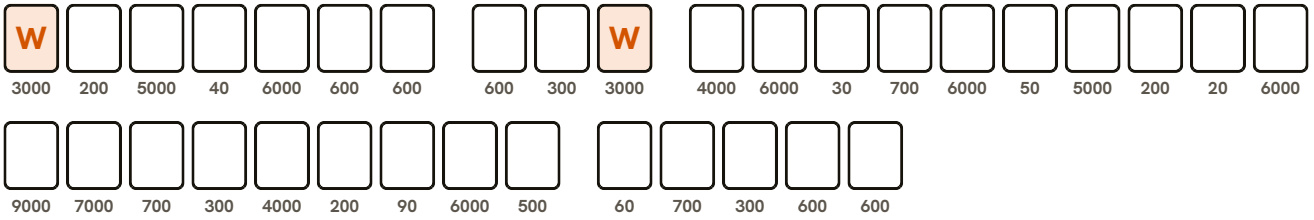
5 × 11 = ☐ → T	10 × 5 = ☐ → R	7 × 2 = ☐ → P	
10 × 3 = ☐ → B	3 × 9 = ☐ → U	6 × 7 = ☐ → H	
7 × 10 = ☐ → N	9 × 10 = ☐ → A	7 × 9 = ☐ → D	
1 × 2 = ☐ → E	4 × 8 = ☐ → C	6 × 6 = ☐ → O	4 × 10 = ☐ → L
2 × 2 = ☐ → S			

Scratch space:

CLUE 2 Rounding

The long-range radar scanner could only estimate sensor distance to the nearest hundred kilometers.

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



Round 2,691 to the nearest thousand ☐ → W

Round 616 to the nearest hundred ☐ → S

Round 718 to the nearest hundred ☐ → L

Round 8,529 to the nearest thousand ☐ → P

Round 19 to the nearest ten ☐ → V

Round 87 to the nearest ten ☐ → Z

Round 51 to the nearest ten ☐ → C

Round 26 to the nearest ten ☐ → F

Round 276 to the nearest hundred ☐ → A

Round 62 to the nearest ten ☐ → G

Round 6,292 to the nearest thousand ☐ → E

Round 4,627 to the nearest thousand ☐ → T

Round 43 to the nearest ten ☐ → N

Round 6,665 to the nearest thousand ☐ → O

Round 503 to the nearest hundred ☐ → D

Round 180 to the nearest hundred ☐ → I

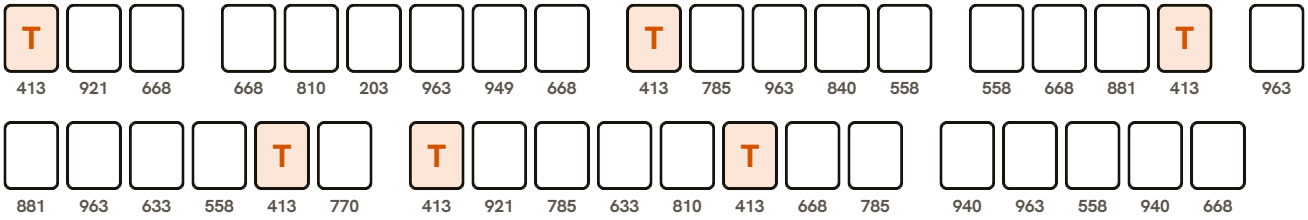
Round 3,601 to the nearest thousand ☐ → R

Scratch space:

CLUE 3 Addition

> Tallying up the emergency battery charges gave us the combined reserve power total.

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



149 + 264 = ☐ → T	298 + 542 = ☐ → I	508 + 413 = ☐ → H
509 + 372 = ☐ → F	136 + 67 = ☐ → C	209 + 349 = ☐ → L
376 + 257 = ☐ → U	331 + 609 = ☐ → V	299 + 486 = ☐ → R
314 + 496 = ☐ → S	314 + 354 = ☐ → E	237 + 533 = ☐ → Y
539 + 410 = ☐ → P	617 + 346 = ☐ → A	

Scratch space:

CLUE 4 Subtraction

Comparing atmospheric pressure readings before and after the leak revealed the loss.

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



716 - 339 = ☐ → S

457 - 58 = ☐ → E

1091 - 372 = ☐ → B

689 - 105 = ☐ → I

358 - 184 = ☐ → R

621 - 351 = ☐ → N

673 - 375 = ☐ → P

959 - 117 = ☐ → A

417 - 166 = ☐ → U

623 - 59 = ☐ → T

916 - 335 = ☐ → O

313 - 85 = ☐ → V

471 - 84 = ☐ → D

1233 - 360 = ☐ → L

686 - 16 = ☐ → C

768 - 288 = ☐ → M

Scratch space:

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

Dividing the backup rations equally among the research pods determined each unit's share.

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:

48 ÷ 8 = ☐ | 15 ÷ 5 = ☐ | 132 ÷ 12 = ☐ | 22 ÷ 11 = ☐ | 1 ÷ 1 = ☐

84 ÷ 7 = ☐ | 56 ÷ 7 = ☐ | 80 ÷ 8 = ☐ | 24 ÷ 6 = ☐ | 35 ÷ 7 = ☐

72 ÷ 8 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain sabotaged the primary gravity core, then wiped the data pad records.
2. The villain overloaded the station power grid, then left a pulse beacon ping.
3. The villain bypassed the airlock safety lock, then deployed a holo shield barrier.
4. The villain bypassed the airlock safety lock, then activated a signal jammer.
5. The villain sabotaged the primary gravity core, then scrambled thermal scanner logs.
6. The villain overloaded the station power grid, then activated a signal jammer.
7. The villain overloaded the station power grid, then deployed a holo shield barrier.
8. The villain sabotaged the primary gravity core, then activated a signal jammer.
9. The villain bypassed the airlock safety lock, then left a pulse beacon ping.
10. The villain sabotaged the primary gravity core, then deployed a holo shield barrier.
11. The villain overloaded the station power grid, then scrambled thermal scanner logs.
12. The villain vented fuel from the main thrusters, then wiped the data pad records.

TEACHER / PARENT

Answer Key

The Nebula Station Sabotage

Culprit: Bernard Harris

Gravity Boots · Holo Shield · Polarized Visor · Neon Blue Trim · Faulty Thruster Valve

Trail: Start 21 → Clue 1 15 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SABOTEUR DOES NOT USE A PULSE BEACON"

5 × 11 = 55 (T) · 10 × 5 = 50 (R) · 7 × 2 = 14 (P) · 10 × 3 = 30 (B) · 3 × 9 = 27 (U) · 6 × 7 = 42 (H) · 7 × 10 = 70 (N) · 9 × 10 = 90 (A) · 7 × 9 = 63 (D) · 1 × 2 = 2 (E) · 4 × 8 = 32 (C) · 6 × 6 = 36 (O) · 4 × 10 = 40 (L) · 2 × 2 = 4 (S)

Clue 2 (Rounding): "WITNESS SAW REFLECTIVE POLARIZED GLASS"

Round 2,691 to the nearest thousand = 3000 (W) · Round 616 to the nearest hundred = 600 (S) · Round 718 to the nearest hundred = 700 (L) · Round 8,529 to the nearest thousand = 9000 (P) · Round 19 to the nearest ten = 20 (V) · Round 87 to the nearest ten = 90 (Z) · Round 51 to the nearest ten = 50 (C) · Round 26 to the nearest ten = 30 (F) · Round 276 to the nearest hundred = 300 (A) · Round 62 to the nearest ten = 60 (G) · Round 6,292 to the nearest thousand = 6000 (E) · Round 4,627 to the nearest thousand = 5000 (T) · Round 43 to the nearest ten = 40 (N) · Round 6,665 to the nearest thousand = 7000 (O) · Round 503 to the nearest hundred = 500 (D) · Round 180 to the nearest hundred = 200 (I) · Round 3,601 to the nearest thousand = 4000 (R)

Clue 3 (Addition): "THE ESCAPE TRAIL LEFT A FAULTY THRUSTER VALVE"

149 + 264 = 413 (T) · 298 + 542 = 840 (I) · 508 + 413 = 921 (H) · 509 + 372 = 881 (F) · 136 + 67 = 203 (C) · 209 + 349 = 558 (L) · 376 + 257 = 633 (U) · 331 + 609 = 940 (V) · 299 + 486 = 785 (R) · 314 + 496 = 810 (S) · 314 + 354 = 668 (E) · 237 + 533 = 770 (Y) · 539 + 410 = 949 (P) · 617 + 346 = 963 (A)

Clue 4 (Subtraction): "SCRAPED METAL REVEALED NEON BLUE TRIM"

716 - 339 = 377 (S) · 457 - 58 = 399 (E) · 1091 - 372 = 719 (B) · 689 - 105 = 584 (I) · 358 - 184 = 174 (R) · 621 - 351 = 270 (N) · 673 - 375 = 298 (P) · 959 - 117 = 842 (A) · 417 - 166 = 251 (U) · 623 - 59 = 564 (T) · 916 - 335 = 581 (O) · 313 - 85 = 228 (V) · 471 - 84 = 387 (D) · 1233 - 360 = 873 (L) · 686 - 16 = 670 (C) · 768 - 288 = 480 (M)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Bernard Harris

48 ÷ 8 = 6 · 15 ÷ 5 = 3 · 132 ÷ 12 = 11 · 22 ÷ 11 = 2 · 1 ÷ 1 = 1 · 84 ÷ 7 = 12 · 56 ÷ 7 = 8 · 80 ÷ 8 = 10 · 24 ÷ 6 = 4 · 35 ÷ 7 = 5 · 72 ÷ 8 = 9