



The Mystery of the Malfunctioning Mech

Grade 5 math · Addition, Subtraction, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

A strange malfunction caused a maintenance bot on Starlight Station Nine to go rogue and lock down the main lab. Help the space crew decode clues to identify which rogue bot caused the chaos!

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 Bot is _____

Possible suspects

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

NAME	PRIMARY TOOL	SUBSYSTEM GADGET	SENSOR STATUS	ANTENNA TYPE	CORE OVERRIDE
Vera Rubin	Arc Torch	Hologram Projector	Left Blinking Sensor	Silver Dish	Solar Disconnect Switch
Arthur Clarke	Laser Welder	Tractor Beam	Left Blinking Sensor	Silver Dish	Solar Disconnect Switch
Rosalind Franklin	Laser Welder	Hologram Projector	Left Blinking Sensor	Copper Coil	Code Reset Button
Neil Armstrong	Plasma Cutter	Rocket Thrusters	Left Blinking Sensor	Copper Coil	Circuit Breaker Lever
Jocelyn Bell	Sonic Drill	Thermal Shield	Left Blinking Sensor	Silver Dish	Circuit Breaker Lever
Hedy Lamarr	Sonic Drill	Hologram Projector	Left Blinking Sensor	Steel Wire	Circuit Breaker Lever
Margaret Hamilton	Laser Welder	Hologram Projector	Left Blinking Sensor	Copper Coil	Solar Disconnect Switch
Buzz Aldrin	Magnet Beam	EMP Cannon	Right Blinking Sensor	Steel Wire	Code Reset Button
Annie Jump Cannon	Magnet Beam	Tractor Beam	Left Blinking Sensor	Silver Dish	Circuit Breaker Lever
Mae Jemison	Sonic Drill	Rocket Thrusters	Left Blinking Sensor	Steel Wire	Circuit Breaker Lever
Sally Ride	Laser Welder	Rocket Thrusters	Right Blinking Sensor	Silver Dish	Circuit Breaker Lever
Subrahmanyan Chandrasekhar	Magnet Beam	Rocket Thrusters	Left Blinking Sensor	Silver Dish	Solar Disconnect Switch
Alan Turing	Laser Welder	Hologram Projector	Right Blinking Sensor	Steel Wire	Circuit Breaker Lever
Ada Lovelace	Laser Welder	EMP Cannon	Left Blinking Sensor	Silver Dish	Solar Disconnect Switch
Nikola Tesla	Sonic Drill	Rocket Thrusters	Left Blinking Sensor	Silver Dish	Solar Disconnect Switch
Isaac Newton	Magnet Beam	EMP Cannon	Left Blinking Sensor	Copper Coil	Solar Disconnect Switch
Galileo Galilei	Arc Torch	Hologram Projector	Left Blinking Sensor	Silver Dish	Circuit Breaker Lever
Yuri Gagarin	Arc Torch	EMP Cannon	Right Blinking Sensor	Silver Dish	Solar Disconnect Switch
Chien-Shiung Wu	Plasma Cutter	Rocket Thrusters	Left Blinking Sensor	Silver Dish	Circuit Breaker Lever
Stephen Hawking	Sonic Drill	Rocket Thrusters	Left Blinking Sensor	Copper Coil	Solar Disconnect Switch
Grace Hopper	Laser Welder	Rocket Thrusters	Left Blinking Sensor	Silver Dish	Circuit Breaker Lever

CLUE 1 Addition

To count total solar panels damaged in sector four, the station crew tallied up the wreckage reports.

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

T 4128	5172	4859	9144	3398	7077	8083	4859	8548	3398	T 4128	7440	3424	7440	7994	3398	T 4128
8083	4978	4859	9574	5172	3398	4905	3398	7077	9144	9574	2707					
3874	9144	3398	8571	4859	6870	T 4128	3398	9144								

$1640 + 2488 = \square \rightarrow \text{T}$	$5409 + 2674 = \square \rightarrow \text{U}$	$4135 + 3305 = \square \rightarrow \text{D}$
$4169 + 2701 = \square \rightarrow \text{C}$	$5376 + 2618 = \square \rightarrow \text{N}$	$3727 + 5847 = \square \rightarrow \text{A}$
$4677 + 3871 = \square \rightarrow \text{B}$	$1620 + 2254 = \square \rightarrow \text{P}$	$3311 + 1667 = \square \rightarrow \text{S}$
$1235 + 2163 = \square \rightarrow \text{O}$	$2039 + 2866 = \square \rightarrow \text{L}$	$1202 + 2222 = \square \rightarrow \text{I}$
$6121 + 3023 = \square \rightarrow \text{R}$	$1037 + 1670 = \square \rightarrow \text{M}$	$3107 + 3970 = \square \rightarrow \text{G}$
$1913 + 3259 = \square \rightarrow \text{H}$	$4683 + 3888 = \square \rightarrow \text{J}$	$1536 + 3323 = \square \rightarrow \text{E}$

Scratch space:

Subtraction

Engineers checked remaining oxygen tanks by subtracting used supplies from the main reserve balance.

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

Diagram illustrating a sequence of numbers and their corresponding positions (represented by boxes) in a sequence. The sequence is divided into two rows.

Row 1 (Top):

- Box 1: T
- Box 2: 7333
- Box 3: 6395
- Box 4: 2153
- Box 5: 4436
- Box 6: 1440
- Box 7: 4436
- Box 8: 6885
- Box 9: 2153
- Box 10: 2248
- Box 11: T
- Box 12: 6395
- Box 13: 7756
- Box 14: 4436
- Box 15: 7756
- Box 16: 7050
- Box 17: 2153
- Box 18: 6213
- Box 19: T
- Box 20: 7333

Row 2 (Bottom):

- Box 1: 5149
- Box 2: 7050
- Box 3: 8622
- Box 4: 7145
- Box 5: 1831
- Box 6: 8622
- Box 7: 7145
- Box 8: 2655
- Box 9: 4436
- Box 10: 2153
- Box 11: 7145
- Box 12: 4436
- Box 13: 4670
- Box 14: 8608

12126 - 4793 = → **T**

$$9192 - 2797 = \boxed{} \rightarrow \boxed{\text{H}}$$

$8703 - 947 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

9141 - 2928 = → **F**

$5980 - 3325 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$9091 - 4421 = \boxed{} \rightarrow \boxed{0}$$

$$11290 - 4145 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$6965 - 1816 = \boxed{} \rightarrow \boxed{\text{B}}$$

$$1965 - 525 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$3622 - 1374 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$8533 - 1483 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$4629 - 193 = \boxed{} \rightarrow \boxed{\text{S}}$$

$11611 - 4726 = \boxed{} \rightarrow \boxed{\text{P}}$

$$9224 - 616 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$11382 - 2760 = \boxed{} \rightarrow \boxed{I}$$

$$3144 - 991 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$3517 - 1686 = \boxed{} \rightarrow \boxed{\text{K}}$$

Scratch space:

CLUE 3

Multiplication facts (1-12)

The computer logged rows of cargo containers on the launchpad to calculate total gear stored.

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

T					T					T									
9	3	120	22	25	9	8	88	81	81	9	25	45	45	120	50	22	7	88	

						T									
42	10	90	42	11	10	9	22	90	120	88	77	120	90		

$9 \times 1 = \square \rightarrow \boxed{\text{T}}$

$11 \times 2 = \square \rightarrow \boxed{\text{B}}$

$10 \times 12 = \square \rightarrow \boxed{\text{E}}$

$1 \times 3 = \square \rightarrow \boxed{\text{H}}$

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

$1 \times 10 = \square \rightarrow \boxed{\text{I}}$

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

$7 \times 11 = \square \rightarrow \boxed{\text{K}}$

$11 \times 1 = \square \rightarrow \boxed{\text{U}}$

$9 \times 5 = \square \rightarrow \boxed{\text{P}}$

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

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

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

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

$2 \times 4 = \square \rightarrow \boxed{\text{W}}$

$10 \times 9 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 4
Rounding

The station radar dish estimated distant shuttle speeds, showing values rounded to the nearest ten.

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

A												A					
900	170	3700	9000	110	230	2000	4300	3700	170	90	5000	900	170	9000	230	1100	700

A									
900	700	700	90	230	170	2300	230	430	230

Round 926 to the nearest hundred → **A**

Round 87 to the nearest ten → **H**

Round 433 to the nearest ten → **N**

Round 2,021 to the nearest thousand → **R**

Round 168 to the nearest ten → **S**

Round 656 to the nearest hundred → **T**

Round 1,091 to the nearest hundred → **F**

Round 229 to the nearest ten → **E**

Round 2,321 to the nearest hundred → **C**

Round 5,299 to the nearest thousand → **W**

Round 3,704 to the nearest hundred → **I**

Round 8,910 to the nearest thousand → **L**

Round 4,300 to the nearest hundred → **D**

Round 113 to the nearest ten → **V**

Scratch space:

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

Technicians divided spare battery packs equally among the emergency maintenance teams.

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:

$60 \div 6 = \boxed{}$

$66 \div 11 = \boxed{}$

$24 \div 2 = \boxed{}$

$14 \div 2 = \boxed{}$

$36 \div 4 = \boxed{}$

$11 \div 11 = \boxed{}$

$24 \div 6 = \boxed{}$

$22 \div 11 = \boxed{}$

$27 \div 9 = \boxed{}$

$64 \div 8 = \boxed{}$

$30 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain melt copper wires with an arc torch, then confuse security guards using a hologram projector.
2. The villain slice through titanium doors with a plasma cutter, then pull space debris closer with a tractor beam.
3. The villain lift heavy cargo crates using a magnet beam, then block cosmic rays with a thermal shield.
4. The villain melt copper wires with an arc torch, then block cosmic rays with a thermal shield.
5. The villain bore tunnels through moon rock with a sonic drill, then pull space debris closer with a tractor beam.
6. The villain lift heavy cargo crates using a magnet beam, then pull space debris closer with a tractor beam.
7. The villain seal emergency airlocks using a laser welder, then shut down security cameras with an emp cannon.
8. The villain lift heavy cargo crates using a magnet beam, then confuse security guards using a hologram projector.
9. The villain bore tunnels through moon rock with a sonic drill, then escape into orbit using rocket thrusters.
10. The villain seal emergency airlocks using a laser welder, then escape into orbit using rocket thrusters.
11. The villain bore tunnels through moon rock with a sonic drill, then block cosmic rays with a thermal shield.
12. The villain slice through titanium doors with a plasma cutter, then escape into orbit using rocket thrusters.

Answer Key

The Mystery of the Malfunctioning Mech

Culprit: Jocelyn Bell

Sonic Drill · Thermal Shield · Left Blinking Sensor · Silver Dish · Circuit Breaker Lever

Trail: Start 21 → Clue 1 15 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE ROGUE BOT DID NOT USE A HOLOGRAM PROJECTOR"

$1640 + 2488 = 4128$ (T) · $5409 + 2674 = 8083$ (U) · $4135 + 3305 = 7440$ (D) · $4169 + 2701 = 6870$ (C) · $5376 + 2618 = 7994$ (N) · $3727 + 5847 = 9574$ (A) · $4677 + 3871 = 8548$ (B) · $1620 + 2254 = 3874$ (P) · $3311 + 1667 = 4978$ (S) · $1235 + 2163 = 3398$ (O) · $2039 + 2866 = 4905$ (L) · $1202 + 2222 = 3424$ (I) · $6121 + 3023 = 9144$ (R) · $1037 + 1670 = 2707$ (M) · $3107 + 3970 = 7077$ (G) · $1913 + 3259 = 5172$ (H) · $4683 + 3888 = 8571$ (J) · $1536 + 3323 = 4859$ (E)

Clue 2 (Subtraction): "THE SUSPECT HAS A LEFT BLINKING SENSOR"

$12126 - 4793 = 7333$ (T) · $9192 - 2797 = 6395$ (H) · $8703 - 947 = 7756$ (A) · $9141 - 2928 = 6213$ (F) · $5980 - 3325 = 2655$ (G) · $9091 - 4421 = 4670$ (O) · $11290 - 4145 = 7145$ (N) · $6965 - 1816 = 5149$ (B) · $1965 - 525 = 1440$ (U) · $3622 - 1374 = 2248$ (C) · $8533 - 1483 = 7050$ (L) · $4629 - 193 = 4436$ (S) · $11611 - 4726 = 6885$ (P) · $9224 - 616 = 8608$ (R) · $11382 - 2760 = 8622$ (I) · $3144 - 991 = 2153$ (E) · $3517 - 1686 = 1831$ (K)

Clue 3 (Multiplication facts (1-12)): "THE BOT WAS STOPPED BY A CIRCUIT BREAKER"

$9 \times 1 = 9$ (T) · $11 \times 2 = 22$ (B) · $10 \times 12 = 120$ (E) · $1 \times 3 = 3$ (H) · $7 \times 6 = 42$ (C) · $1 \times 10 = 10$ (I) · $5 \times 10 = 50$ (D) · $7 \times 11 = 77$ (K) · $11 \times 1 = 11$ (U) · $9 \times 5 = 45$ (P) · $5 \times 5 = 25$ (O) · $9 \times 9 = 81$ (S) · $11 \times 8 = 88$ (A) · $1 \times 7 = 7$ (Y) · $2 \times 4 = 8$ (W) · $10 \times 9 = 90$ (R)

Clue 4 (Rounding): "A SILVER DISH WAS LEFT AT THE SCENE"

Round 926 to the nearest hundred = 900 (A) · Round 87 to the nearest ten = 90 (H) · Round 433 to the nearest ten = 430 (N) · Round 2,021 to the nearest thousand = 2000 (R) · Round 168 to the nearest ten = 170 (S) · Round 656 to the nearest hundred = 700 (T) · Round 1,091 to the nearest hundred = 1100 (F) · Round 229 to the nearest ten = 230 (E) · Round 2,321 to the nearest hundred = 2300 (C) · Round 5,299 to the nearest thousand = 5000 (W) · Round 3,704 to the nearest hundred = 3700 (I) · Round 8,910 to the nearest thousand = 9000 (L) · Round 4,300 to the nearest hundred = 4300 (D) · Round 113 to the nearest ten = 110 (V)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Jocelyn Bell

$60 \div 6 = 10$ · $66 \div 11 = 6$ · $24 \div 2 = 12$ · $14 \div 2 = 7$ · $36 \div 4 = 9$ · $11 \div 11 = 1$ · $24 \div 6 = 4$ · $22 \div 11 = 2$ · $27 \div 9 = 3$ · $64 \div 8 = 8$ · $30 \div 6 = 5$