



The Cosmic Redstone Sabotage

Grade 7 math · Integers, Percentages, Order of operations, Exponents, Missing addends · Reading level grades 5-6

Detective: _____ **Date:** _____

The gravity generator has been hacked! A mysterious Space Griever is floating through the space station, leaving trails of floating blocks and scrambled ship systems. We need to decode the logs before we drift into the deep void.

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 Griever is _____

Possible suspects

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

NAME	SPACE GEAR	INFILTRATOR TOOL	HANDEDNESS	VISOR VISIBLE HAIR	DEFENSIVE WEAKNESS
Jeb	Vox Shield	Plasma Pickaxe	Right handed	Dark blue hair	Water buckets
Sally	Jetpack Suit	Elytra Wings	Left handed	Dark blue hair	Slimeballs
Yuri	Jetpack Suit	Elytra Wings	Right handed	Neon green hair	Slimeballs
Sparklez	Ender Pearl Gun	Netherite Helmet	Right handed	Bright purple hair	Slimeballs
Alex	Redstone Laser	Solar Visor	Left handed	Neon green hair	Slimeballs
Techno	Ender Pearl Gun	Elytra Wings	Left handed	Bright purple hair	Glowstone dust
Steve	Redstone Laser	Solar Visor	Right handed	Dark blue hair	Slimeballs
Grian	Gravity Boots	Solar Visor	Right handed	Dark blue hair	Slimeballs
Lizzie	Redstone Laser	Solar Visor	Right handed	Neon green hair	Slimeballs
Ranboo	Redstone Laser	Solar Visor	Left handed	Neon green hair	Glowstone dust
Mae	Gravity Boots	Netherite Helmet	Right handed	Dark blue hair	Slimeballs
Hannah	Ender Pearl Gun	Solar Visor	Right handed	Neon green hair	Water buckets
Phil	Gravity Boots	Netherite Helmet	Left handed	Dark blue hair	Water buckets
Kalpana	Ender Pearl Gun	Solar Visor	Right handed	Bright purple hair	Water buckets
Dan	Gravity Boots	Plasma Pickaxe	Left handed	Bright purple hair	Slimeballs
Chris	Redstone Laser	Netherite Helmet	Right handed	Bright purple hair	Slimeballs
Mumbo	Ender Pearl Gun	Solar Visor	Right handed	Neon green hair	Slimeballs
Neil	Jetpack Suit	Solar Visor	Right handed	Neon green hair	Water buckets
Stampy	Ender Pearl Gun	Oxygen Tank	Right handed	Neon green hair	Slimeballs
Tubbo	Jetpack Suit	Solar Visor	Left handed	Neon green hair	Slimeballs
Wilbur	Ender Pearl Gun	Netherite Helmet	Right handed	Neon green hair	Slimeballs

CLUE 1 Integers

The station radar tracks altitude drops in the atmosphere. To read the secret coordinate, calculate the integer change in height.

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

T																T
8	21	15	24	4	17	17	30	4	27	6	11	15	14	27	11	8
21	30	24	15	30	27	11	5	22	29	15	27	T				

$(-1) + 9 = \square \rightarrow$ T	$10 - (-1) = \square \rightarrow$ O	$(-11) + 25 = \square \rightarrow$ S
$(-3) + 24 = \square \rightarrow$ H	$(-11) + 16 = \square \rightarrow$ X	$(-4) + 13 = \square \rightarrow$ K
$(-8) + 14 = \square \rightarrow$ D	$9 - (-8) = \square \rightarrow$ L	$(-14) + 36 = \square \rightarrow$ Y
$21 - (-3) = \square \rightarrow$ V	$16 - (-11) = \square \rightarrow$ N	$(-2) + 6 = \square \rightarrow$ I
$(-3) + 33 = \square \rightarrow$ A	$(-9) + 24 = \square \rightarrow$ E	$20 - (-9) = \square \rightarrow$ G

Scratch space:

CLUE 2

The backup batteries are partially charged. Find the remaining percentage of redstone energy to unlock the locker room camera.

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

28 50 1 40 11 40 35 1 46 28 11 40 1 27 28 50 1 32 25

25 32 18 50 28 50 10 42 27

10% of 280 = $\rightarrow$ **T**

25% of 184 = $\rightarrow$ **C**

60% of 70 = $\rightarrow$ **N**

50% of 70 = → **P**

25% of 160 = → **S**

40% of 125 = $\rightarrow$ **H**

5% of 640 = $\rightarrow$

20% of 5 = → **E**

$$25\% \text{ of } 100 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

60% of 30 = → **G**

10% of 110 = $\rightarrow$ **U**

10% of 100 = $\rightarrow$ **A**

10% of 270 = $\rightarrow$ **D**

Scratch space:

Order of operations

To bypass the airlock security pad, we must solve a complex equation using the exact order of operations to prevent system lock.

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

A number line from 0 to 120 with increments of 9. The number 38 is highlighted in orange and labeled with a 'T'. The number 111 is also labeled with a 'T'.

$$6 + 4 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{T}}$$

$$6 \times 5 - 6 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$10 \times 5 - 19 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$11 \times 7 - 17 = \boxed{} \rightarrow \boxed{\text{E}}$

$12 \times 8 - 18 = \boxed{} \rightarrow \boxed{\text{R}}$

$$7 + 7 \times 2 = \boxed{} \rightarrow \boxed{\text{H}}$$

$3 + 2 \times 3 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$7 \times 12 - 7 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$8 \times 5 - 6 = \boxed{} \rightarrow \boxed{}$$

$$89 + 4 \times 5 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$80 + 4 \times 8 = \boxed{} \rightarrow \boxed{\text{F}}$$

$$12 \times 11 - 21 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

Scratch space:

CLUE 4 Exponents

The spaceship's warp drive scales up on an exponential curve. Calculate the squared energy output to locate the suspect's warp trail.

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

W															
8	32	25	36	27	4	16	4	32	36	4	196	128	32	32	4
125	169	289	128	289	4	121	125	32	169	289	128	144	36	81	256

$2^3 = \square \rightarrow \mathbf{W}$	$11^2 = \square \rightarrow \mathbf{T}$	$6^2 = \square \rightarrow \mathbf{O}$	$2^5 = \square \rightarrow \mathbf{E}$
$17^2 = \square \rightarrow \mathbf{I}$	$2^7 = \square \rightarrow \mathbf{R}$	$3^4 = \square \rightarrow \mathbf{C}$	$13^2 = \square \rightarrow \mathbf{A}$
$14^2 = \square \rightarrow \mathbf{G}$	$5^2 = \square \rightarrow \mathbf{F}$	$5^3 = \square \rightarrow \mathbf{H}$	$12^2 = \square \rightarrow \mathbf{L}$
$3^3 = \square \rightarrow \mathbf{U}$	$4^4 = \square \rightarrow \mathbf{K}$	$2^2 = \square \rightarrow \mathbf{N}$	$4^2 = \square \rightarrow \mathbf{D}$

Scratch space:

CLUE 5**Missing addends - the last clue**

The cargo hold is missing several chests of building blocks. Find how many blocks are still needed to balance the ship's weight scale.

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:

$37 + \underline{\quad} = 40$

$23 + \underline{\quad} = 35$

$37 + \underline{\quad} = 42$

$33 + \underline{\quad} = 35$

$25 + \underline{\quad} = 26$

$4 + \underline{\quad} = 14$

$17 + \underline{\quad} = 23$

$8 + \underline{\quad} = 16$

$3 + \underline{\quad} = 10$

$5 + \underline{\quad} = 14$

$30 + \underline{\quad} = 41$

Step 2 - cross out the sentence with each answer:

1. The villain teleported past the blast doors, then mined through the obsidian wall.
2. The villain stomped along the ceiling beams, then bashed open the emergency escape hatch.
3. The villain teleported past the blast doors, then stared directly into the supergiant star.
4. The villain melted the station core lock, then stared directly into the supergiant star.
5. The villain zoomed through the Zero G bay, then glided down to the reactor level.
6. The villain deflected the security drones, then survived the sudden depressurization.
7. The villain stomped along the ceiling beams, then survived the sudden depressurization.
8. The villain zoomed through the Zero G bay, then mined through the obsidian wall.
9. The villain melted the station core lock, then glided down to the reactor level.
10. The villain zoomed through the Zero G bay, then bashed open the emergency escape hatch.
11. The villain stomped along the ceiling beams, then mined through the obsidian wall.
12. The villain teleported past the blast doors, then bashed open the emergency escape hatch.

Answer Key

The Cosmic Redstone Sabotage

Culprit: Lizzie

Redstone Laser · Solar Visor · Right handed · Neon green hair · Slimeballs

Trail: Start 21 → Clue 1 20 → Clue 2 13 → Clue 3 9 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE VILLAIN DOES NOT HAVE AN OXYGEN TANK"

$(-1) + 9 = 8$ (T) · $10 - (-1) = 11$ (O) · $(-11) + 25 = 14$ (S) · $(-3) + 24 = 21$ (H) · $(-11) + 16 = 5$ (X) · $(-4) + 13 = 9$ (K) · $(-8) + 14 = 6$ (D) · $9 - (-8) = 17$ (L) · $(-14) + 36 = 22$ (Y) · $21 - (-3) = 24$ (V) · $16 - (-11) = 27$ (N) · $(-2) + 6 = 4$ (I) · $(-3) + 33 = 30$ (A) · $(-9) + 24 = 15$ (E) · $20 - (-9) = 29$ (G)

Clue 2 (Percentages): "THE SUSPECT USED THEIR RIGHT HAND"

10% of 280 = 28 (T) · 25% of 184 = 46 (C) · 60% of 70 = 42 (N) · 50% of 70 = 35 (P) · 25% of 160 = 40 (S) · 40% of 125 = 50 (H) · 5% of 640 = 32 (I) · 20% of 5 = 1 (E) · 25% of 100 = 25 (R) · 60% of 30 = 18 (G) · 10% of 110 = 11 (U) · 10% of 100 = 10 (A) · 10% of 270 = 27 (D)

Clue 3 (Order of operations): "THE GRIEFER HATES SLIMEBALLS"

$6 + 4 \times 8 = 38$ (T) · $6 \times 5 - 6 = 24$ (L) · $10 \times 5 - 19 = 31$ (B) · $11 \times 7 - 17 = 60$ (E) · $12 \times 8 - 18 = 78$ (R) · $7 + 7 \times 2 = 21$ (H) · $3 + 2 \times 3 = 9$ (G) · $7 \times 12 - 7 = 77$ (M) · $8 \times 5 - 6 = 34$ (I) · $89 + 4 \times 5 = 109$ (A) · $80 + 4 \times 8 = 112$ (F) · $12 \times 11 - 21 = 111$ (S)

Clue 4 (Exponents): "WE FOUND NEON GREEN HAIR IN THE AIRLOCK"

$2^3 = 8$ (W) · $11^2 = 121$ (T) · $6^2 = 36$ (O) · $2^5 = 32$ (E) · $17^2 = 289$ (I) · $2^7 = 128$ (R) · $3^4 = 81$ (C) · $13^2 = 169$ (A) · $14^2 = 196$ (G) · $5^2 = 25$ (F) · $5^3 = 125$ (H) · $12^2 = 144$ (L) · $3^3 = 27$ (U) · $4^4 = 256$ (K) · $2^2 = 4$ (N) · $4^2 = 16$ (D)

Clue 5 (Missing addends): surviving statement is box 4 → Lizzie

$37 + \underline{\quad} = 40 = 3$ · $23 + \underline{\quad} = 35 = 12$ · $37 + \underline{\quad} = 42 = 5$ · $33 + \underline{\quad} = 35 = 2$ · $25 + \underline{\quad} = 26 = 1$ · $4 + \underline{\quad} = 14 = 10$ · $17 + \underline{\quad} = 23 = 6$ · $8 + \underline{\quad} = 16 = 8$ · $3 + \underline{\quad} = 10 = 7$ · $5 + \underline{\quad} = 14 = 9$ · $30 + \underline{\quad} = 41 = 11$