



Mystery of the Lunar Nether Portal

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 5-6

Detective: _____ Date: _____

A mysterious break-in has rocked Base Alpha on Asteroid Ender-9! The station hydroponics bay was raided, destroying rare space crops. Detective Nova must analyze clues left behind at the cosmic crafting station to identify the culprit before they escape into deep space.

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 Cosmic Saboteur is _____

Possible suspects

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

NAME	CRAFTING TOOL	SUIT MODULE	GLOVE HANDEDNESS	HELMET TINT	SHIELD DEFECT
Alex	Laser Cutter	Nether Cloak	Right Handed	Neon Green	Sound Wave Vibration
Creeper Dan	Laser Cutter	Quantum Compass	Right Handed	Cobalt Blue	Flashbang Light
Mae Jemison	Diamond Pickaxe	Gravity Boots	Right Handed	Solar Orange	High Heat Surge
Luna	Plasma Torch	Nether Cloak	Left Handed	Solar Orange	Flashbang Light
Atlas	Plasma Torch	Quantum Compass	Right Handed	Cobalt Blue	High Heat Surge
Notch	Laser Cutter	Jetpack Boost	Left Handed	Solar Orange	High Heat Surge
Carl Sagan	Diamond Pickaxe	Quantum Compass	Left Handed	Solar Orange	High Heat Surge
Valentina	Plasma Torch	Quantum Compass	Left Handed	Cobalt Blue	High Heat Surge
Jeb	Diamond Pickaxe	Jetpack Boost	Right Handed	Solar Orange	Flashbang Light
Buzz Aldrin	Laser Cutter	Nether Cloak	Left Handed	Solar Orange	Flashbang Light
Orion	Laser Cutter	Jetpack Boost	Right Handed	Neon Green	High Heat Surge
Sputnik Sam	Plasma Torch	Oxygen Shield	Right Handed	Neon Green	Sound Wave Vibration
Peggy Whitson	Antimatter Shovel	Quantum Compass	Right Handed	Cobalt Blue	Flashbang Light
Steve	Laser Cutter	Oxygen Shield	Left Handed	Solar Orange	High Heat Surge
Sally Ride	Plasma Torch	Jetpack Boost	Left Handed	Solar Orange	High Heat Surge
Redstone Rita	Plasma Torch	Gravity Boots	Left Handed	Solar Orange	Sound Wave Vibration
Astra	Diamond Pickaxe	Quantum Compass	Right Handed	Cobalt Blue	Flashbang Light
Gagarin	Laser Cutter	Jetpack Boost	Left Handed	Cobalt Blue	Flashbang Light
Chris Hadfield	Diamond Pickaxe	Quantum Compass	Right Handed	Neon Green	Flashbang Light
Neil Armstrong	Graviton Hammer	Gravity Boots	Left Handed	Solar Orange	High Heat Surge
Hank	Plasma Torch	Quantum Compass	Right Handed	Solar Orange	Sound Wave Vibration

CLUE 1 Place value

Scanning the oxygen tank telemetry, Commander Alex broke down the digital display by hundreds, tens, and ones to reveal the first hidden code.

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

T																T
38	50	87	96	14	84	84	31	14	57	62	40	87	25	57	40	38
42	25	87	31	57	40	48	30	74	87	57	25	50	14	87	84	62

What number has 3 tens and 8 ones? → **T**

What number has 3 tens and 0 ones? → **Y**

What number has 2 tens and 5 ones? → **S**

What number has 4 tens and 8 ones? → **X**

What number has 3 tens and 1 one? → **A**

What number has 5 tens and 7 ones? → **N**

What number has 9 tens and 6 ones? → **V**

What number has 8 tens and 7 ones? → **E**

What number has 7 tens and 4 ones? → **G**

What number has 6 tens and 2 ones? → **D**

What number has 4 tens and 2 ones? → **U**

What number has 5 tens and 0 ones? → **H**

What number has 8 tens and 4 ones? → **L**

What number has 4 tens and 0 ones? → **O**

What number has 1 ten and 4 ones? → **I**

Scratch space:

CLUE 2 Addition

To calculate the total energy needed for the lunar scanner, the crew combined the power cell readings from both supply crates.

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

W									W									
48	62	24	43	25	42	42	42	33	48	33	45	25	34	24				
29	33	43	30	25	30	24	52	52	45	27	33	86	57	52	43	24	29	25
W																		
48	33	45	45															

$24 + 24 = \square \rightarrow$ W	$42 + 44 = \square \rightarrow$ R	$37 + 15 = \square \rightarrow$ O
$13 + 20 = \square \rightarrow$ A	$24 + 33 = \square \rightarrow$ K	$12 + 15 = \square \rightarrow$ M
$20 + 23 = \square \rightarrow$ N	$7 + 18 = \square \rightarrow$ E	$38 + 24 = \square \rightarrow$ I
$28 + 14 = \square \rightarrow$ S	$14 + 16 = \square \rightarrow$ D	$13 + 16 = \square \rightarrow$ H
$22 + 12 = \square \rightarrow$ F	$31 + 14 = \square \rightarrow$ L	$8 + 16 = \square \rightarrow$ T

Scratch space:

CLUE 3 Subtraction

After a sudden power drain in the hydroponics bay, Chief Nova subtracted the ruined solar panels from the remaining grid output.

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

T																	
68	36	69	45	48	19	19	37	48	55	74	37	55	37	12	37	28	
													T				
24	74	38	86	37	36	48	18	36	36	69	37	68	14	76	74	18	69

$97 - 29 = \square \rightarrow$ T	$60 - 15 = \square \rightarrow$ V	$43 - 25 = \square \rightarrow$ G
$49 - 21 = \square \rightarrow$ Y	$52 - 4 = \square \rightarrow$ I	$93 - 38 = \square \rightarrow$ N
$62 - 38 = \square \rightarrow$ F	$64 - 26 = \square \rightarrow$ O	$32 - 20 = \square \rightarrow$ W
$43 - 6 = \square \rightarrow$ A	$29 - 10 = \square \rightarrow$ L	$90 - 4 = \square \rightarrow$ M
$94 - 20 = \square \rightarrow$ R	$29 - 15 = \square \rightarrow$ S	$37 - 1 = \square \rightarrow$ H
$95 - 26 = \square \rightarrow$ E	$106 - 30 = \square \rightarrow$ U	

Scratch space:

CLUE 4 Skip counting

Officer Jax inspected the asteroid perimeter, counting space beacons by equal groups along the lava trenches.

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

O																		
70	110	16	15	130	65	30	65	45	140	65	40	10	16	26	15	40		
							O						O	O				
35	6	110	16	10	65	25	70	15	40	30	65	25	70	70	110	22	16	14

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 → **O**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **W**

Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 → **T**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 → **H**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **A**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 → **G**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **P**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 → **Y**

Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 → **N**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 → **S**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 → **E**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **M**

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **C**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 → **R**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **D**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **L**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **I**

Scratch space:

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

Analyzing the crafting station inventory, Dr. Vane determined how many redstone dust units were still missing from the lockbox.

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:

$5 + \underline{\quad} = 9$

$1 + \underline{\quad} = 13$

$7 + \underline{\quad} = 12$

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

$2 + \underline{\quad} = 4$

$6 + \underline{\quad} = 7$

$7 + \underline{\quad} = 16$

$9 + \underline{\quad} = 15$

$7 + \underline{\quad} = 15$

$7 + \underline{\quad} = 17$

$3 + \underline{\quad} = 6$

Step 2 - cross out the sentence with each answer:

1. The villain sliced with a laser cutter, then clicked gravity boots.
2. The villain smashed a graviton hammer, then checked a quantum compass.
3. The villain sliced with a laser cutter, then wrapped in a nether cloak.
4. The villain sliced with a laser cutter, then activated jetpack boost.
5. The villain swung a diamond pickaxe, then checked a quantum compass.
6. The villain dug using an antimatter shovel, then activated jetpack boost.
7. The villain fired a plasma torch, then wrapped in a nether cloak.
8. The villain dug using an antimatter shovel, then clicked gravity boots.
9. The villain sliced with a laser cutter, then turned on an oxygen shield.
10. The villain swung a diamond pickaxe, then wrapped in a nether cloak.
11. The villain fired a plasma torch, then activated jetpack boost.
12. The villain smashed a graviton hammer, then clicked gravity boots.

Answer Key

Mystery of the Lunar Nether Portal

Culprit: Sally Ride

Plasma Torch · Jetpack Boost · Left Handed · Solar Orange · High Heat Surge

Trail: Start 21 → Clue 1 19 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT USE AN OXYGEN SHIELD"

What number has 3 tens and 8 ones? = 38 (T) · What number has 3 tens and 0 ones? = 30 (Y) · What number has 2 tens and 5 ones? = 25 (S) · What number has 4 tens and 8 ones? = 48 (X) · What number has 3 tens and 1 one? = 31 (A) · What number has 5 tens and 7 ones? = 57 (N) · What number has 9 tens and 6 ones? = 96 (V) · What number has 8 tens and 7 ones? = 87 (E) · What number has 7 tens and 4 ones? = 74 (G) · What number has 6 tens and 2 ones? = 62 (D) · What number has 4 tens and 2 ones? = 42 (U) · What number has 5 tens and 0 ones? = 50 (H) · What number has 8 tens and 4 ones? = 84 (L) · What number has 4 tens and 0 ones? = 40 (O) · What number has 1 ten and 4 ones? = 14 (I)

Clue 2 (Addition): "WITNESS SAW A LEFT HANDED TOOL MARK ON THE WALL"

$24 + 24 = 48$ (W) · $42 + 44 = 86$ (R) · $37 + 15 = 52$ (O) · $13 + 20 = 33$ (A) · $24 + 33 = 57$ (K) · $12 + 15 = 27$ (M) · $20 + 23 = 43$ (N) · $7 + 18 = 25$ (E) · $38 + 24 = 62$ (I) · $28 + 14 = 42$ (S) · $14 + 16 = 30$ (D) · $13 + 16 = 29$ (H) · $22 + 12 = 34$ (F) · $31 + 14 = 45$ (L) · $8 + 16 = 24$ (T)

Clue 3 (Subtraction): "THE VILLAIN RAN AWAY FROM A HIGH HEAT SURGE"

$97 - 29 = 68$ (T) · $60 - 15 = 45$ (V) · $43 - 25 = 18$ (G) · $49 - 21 = 28$ (Y) · $52 - 4 = 48$ (I) · $93 - 38 = 55$ (N) · $62 - 38 = 24$ (F) · $64 - 26 = 38$ (O) · $32 - 20 = 12$ (W) · $43 - 6 = 37$ (A) · $29 - 10 = 19$ (L) · $90 - 4 = 86$ (M) · $94 - 20 = 74$ (R) · $29 - 15 = 14$ (S) · $37 - 1 = 36$ (H) · $95 - 26 = 69$ (E) · $106 - 30 = 76$ (U)

Clue 4 (Skip counting): "ORANGE HELMET PAINT SCRAPED ON THE DOORWAY"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, __, 80, 90 = 70 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (W) · Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 = 40 (T) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 = 30 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (G) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (P) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 = 14 (Y) · Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 = 15 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 = 35 (S) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (M) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (C) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (R) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (D) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (L) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (I)

Clue 5 (Missing addends): surviving statement is box 11 → Sally Ride

$5 + \underline{\quad} = 9 = 4$ · $1 + \underline{\quad} = 13 = 12$ · $7 + \underline{\quad} = 12 = 5$ · $3 + \underline{\quad} = 10 = 7$ · $2 + \underline{\quad} = 4 = 2$ · $6 + \underline{\quad} = 7 = 1$ · $7 + \underline{\quad} = 16 = 9$ · $9 + \underline{\quad} = 15 = 6$ · $7 + \underline{\quad} = 15 = 8$ · $7 + \underline{\quad} = 17 = 10$ · $3 + \underline{\quad} = 6 = 3$