



The Lunar Outpost Mystery

Grade 3 math · Subtraction, Rounding, Addition, Multiplication, Division · Reading level grades 3-4

Detective: _____ Date: _____

Someone snuck into Lunar Base Alpha and stolen the glowing star crystal! Work through the station logs, decode the evidence, and find the bandit.

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 bandit 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	SECONDARY GADGET	GRIP STYLE	VISOR TINT	DEFENSE WEAKNESS
Chief Astro	Grav Tether	Starlight Scanner	Left handed	Blue visor	Magnet traps
Kalpana Chawla	Plasma Cutter	Plasma Shield	Left handed	Red visor	Bright flares
Mae Jemison	Pulse Beam	Starlight Scanner	Right handed	Gold visor	Bright flares
Eileen Collins	Pulse Beam	Gravity Boots	Right handed	Red visor	Bright flares
Captain Sirius	Grav Tether	Plasma Shield	Left handed	Gold visor	Bright flares
Peggy Whitson	Plasma Cutter	Gravity Boots	Left handed	Red visor	Loud sirens
Agent Polaris	Grav Tether	Gravity Boots	Right handed	Red visor	Bright flares
Ellen Ochoa	Plasma Cutter	Gravity Boots	Right handed	Gold visor	Magnet traps
Ranger Stella	Grav Tether	Laser Torch	Right handed	Blue visor	Loud sirens
Marshal Comet	Plasma Cutter	Plasma Shield	Left handed	Blue visor	Bright flares
Dr Alan Stern	Pulse Beam	Plasma Shield	Left handed	Blue visor	Magnet traps
Cadet Leo	Plasma Cutter	Gravity Boots	Right handed	Gold visor	Bright flares
Sally Ride	Grav Tether	Starlight Scanner	Right handed	Gold visor	Loud sirens
Commander Nova	Pulse Beam	Starlight Scanner	Right handed	Red visor	Bright flares
Scout Vega	Sonic Wrench	Laser Torch	Right handed	Gold visor	Bright flares
Michael Collins	Plasma Cutter	Plasma Shield	Right handed	Gold visor	Magnet traps
Neil Armstrong	Grav Tether	Laser Torch	Right handed	Gold visor	Bright flares
John Glenn	Plasma Cutter	Jetpack	Left handed	Blue visor	Loud sirens
Chris Hadfield	Thermal Torch	Laser Torch	Left handed	Blue visor	Magnet traps
Buzz Aldrin	Plasma Cutter	Jetpack	Right handed	Gold visor	Bright flares
Pilot Orion	Plasma Cutter	Starlight Scanner	Right handed	Red visor	Magnet traps

CLUE 1

Subtraction

To check missing energy cells in the engine room, calculate how much fuel was taken.

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

V																
138	630	656	656	465	630	661	443	707	392	731	661	707	785	890	731	392

731	785	465	105	656	630	659	166	785	731	897	465	661	661	392	105	

$271 - 133 = \square \rightarrow \boxed{\text{V}}$

$612 - 169 = \square \rightarrow \boxed{\text{D}}$

$932 - 42 = \square \rightarrow \boxed{\text{U}}$

$695 - 34 = \square \rightarrow \boxed{\text{N}}$

$1015 - 284 = \square \rightarrow \boxed{\text{S}}$

$961 - 64 = \square \rightarrow \boxed{\text{C}}$

$573 - 108 = \square \rightarrow \boxed{\text{A}}$

$459 - 354 = \square \rightarrow \boxed{\text{R}}$

$405 - 13 = \square \rightarrow \boxed{\text{E}}$

$904 - 248 = \square \rightarrow \boxed{\text{L}}$

$945 - 286 = \square \rightarrow \boxed{\text{G}}$

$176 - 10 = \square \rightarrow \boxed{\text{H}}$

$720 - 90 = \square \rightarrow \boxed{\text{I}}$

$1009 - 302 = \square \rightarrow \boxed{\text{O}}$

$1037 - 252 = \square \rightarrow \boxed{\text{T}}$

Scratch space:

CLUE 2
Rounding

The long range station radar only gives estimated rounded figures for nearby craft.

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

R																	
800	5000	600	6000	50	6000	200	400	20	80	20	300	800	5000	400	50	2000	400

600	500	200	7000	7000

Round 840 to the nearest hundred → **R**

Round 6,438 to the nearest thousand → **H**

Round 19 to the nearest ten → **D**

Round 229 to the nearest hundred → **A**

Round 6,841 to the nearest thousand → **S**

Round 627 to the nearest hundred → **G**

Round 1,504 to the nearest thousand → **O**

Round 4,726 to the nearest thousand → **I**

Round 80 to the nearest ten → **E**

Round 52 to the nearest ten → **T**

Round 402 to the nearest hundred → **N**

Round 508 to the nearest hundred → **L**

Round 261 to the nearest hundred → **P**

Scratch space:

Addition

Tally up the total moon rocks collected during the morning rover patrol.

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

614 731 257 952 218 601 647 725 647 648 257 650 974 901 614 952 488 648 218 567

$399 + 215 = \square \rightarrow \mathbf{F}$

$383 + 218 = \boxed{} \rightarrow \boxed{\mathbf{D}}$

$391 + 259 = \square \rightarrow \mathbf{G}$

$$161 + 96 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$482 + 243 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$$578 + 396 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$459 + 272 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$380 + 521 = \boxed{} \rightarrow \boxed{\text{T}}$$

$224 + 423 = \boxed{} \rightarrow \boxed{\text{B}}$

$$249 + 399 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$253 + 235 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$550 + 402 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$347 + 220 = \boxed{} \rightarrow \boxed{\text{S}}$$

$128 + 90 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

Count the plasma batteries stored across equal supply rows in the cargo hold.

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

G																		
49	9	108	25	55	20	32	9	100	100	54	8	108	54	5	35	20	9	120

108	54	8	35	48	54	40	20	120	25

$7 \times 7 = \square \rightarrow \text{G}$

$5 \times 4 = \square \rightarrow \text{I}$

$5 \times 7 = \square \rightarrow \text{T}$

$6 \times 9 = \square \rightarrow \text{E}$

$1 \times 8 = \square \rightarrow \text{F}$

$1 \times 5 = \square \rightarrow \text{C}$

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

$3 \times 3 = \square \rightarrow \text{O}$

$10 \times 12 = \square \rightarrow \text{N}$

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

$8 \times 5 = \square \rightarrow \text{H}$

$5 \times 11 = \square \rightarrow \text{V}$

$4 \times 12 = \square \rightarrow \text{B}$

$8 \times 4 = \square \rightarrow \text{S}$

$9 \times 12 = \square \rightarrow \text{L}$

Scratch space:

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

Split the remaining oxygen canisters evenly among the exploration 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:

$10 \div 1 = \boxed{}$

$70 \div 10 = \boxed{}$

$33 \div 3 = \boxed{}$

$35 \div 7 = \boxed{}$

$96 \div 8 = \boxed{}$

$2 \div 2 = \boxed{}$

$12 \div 4 = \boxed{}$

$12 \div 3 = \boxed{}$

$4 \div 2 = \boxed{}$

$48 \div 6 = \boxed{}$

$108 \div 12 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain hacked the pod terminal, then snatched the star chart.
2. The villain disabled the core gate, then swiped the crystal fuel.
3. The villain unlocked the launch bay, then escaped in a shuttle.
4. The villain zapped the solar vault, then scrambled the comms log.
5. The villain hacked the pod terminal, then swiped the crystal fuel.
6. The villain unlocked the launch bay, then cut the main power grid.
7. The villain hacked the pod terminal, then cut the main power grid.
8. The villain disabled the core gate, then escaped in a shuttle.
9. The villain jammed the radar dish, then escaped in a shuttle.
10. The villain zapped the solar vault, then snatched the star chart.
11. The villain zapped the solar vault, then escaped in a shuttle.
12. The villain jammed the radar dish, then scrambled the comms log.

Answer Key

The Lunar Outpost Mystery

Culprit: Neil Armstrong

Grav Tether · Laser Torch · Right handed · Gold visor · Bright flares

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Subtraction): "VILLAIN DOES NOT USE STARLIGHT SCANNER"

$271 - 133 = 138$ (V) · $612 - 169 = 443$ (D) · $932 - 42 = 890$ (U) · $695 - 34 = 661$ (N) · $1015 - 284 = 731$ (S) · $961 - 64 = 897$ (C) · $573 - 108 = 465$ (A) · $459 - 354 = 105$ (R) · $405 - 13 = 392$ (E) · $904 - 248 = 656$ (L) · $945 - 286 = 659$ (G) · $176 - 10 = 166$ (H) · $720 - 90 = 630$ (I) · $1009 - 302 = 707$ (O) · $1037 - 252 = 785$ (T)

Clue 2 (Rounding): "RIGHT HANDED PRINT ON GLASS"

Round 840 to the nearest hundred = 800 (R) · Round 6,438 to the nearest thousand = 6000 (H) · Round 19 to the nearest ten = 20 (D) · Round 229 to the nearest hundred = 200 (A) · Round 6,841 to the nearest thousand = 7000 (S) · Round 627 to the nearest hundred = 600 (G) · Round 1,504 to the nearest thousand = 2000 (O) · Round 4,726 to the nearest thousand = 5000 (I) · Round 80 to the nearest ten = 80 (E) · Round 52 to the nearest ten = 50 (T) · Round 402 to the nearest hundred = 400 (N) · Round 508 to the nearest hundred = 500 (L) · Round 261 to the nearest hundred = 300 (P)

Clue 3 (Addition): "FOILED BY BRIGHT FLARES"

$399 + 215 = 614$ (F) · $383 + 218 = 601$ (D) · $391 + 259 = 650$ (G) · $161 + 96 = 257$ (I) · $482 + 243 = 725$ (Y) · $578 + 396 = 974$ (H) · $459 + 272 = 731$ (O) · $380 + 521 = 901$ (T) · $224 + 423 = 647$ (B) · $249 + 399 = 648$ (R) · $253 + 235 = 488$ (A) · $550 + 402 = 952$ (L) · $347 + 220 = 567$ (S) · $128 + 90 = 218$ (E)

Clue 4 (Multiplication facts (1-12)): "GOLD VISOR REFLECTION LEFT BEHIND"

$7 \times 7 = 49$ (G) · $5 \times 4 = 20$ (I) · $5 \times 7 = 35$ (T) · $6 \times 9 = 54$ (E) · $1 \times 8 = 8$ (F) · $1 \times 5 = 5$ (C) · $10 \times 10 = 100$ (R) · $3 \times 3 = 9$ (O) · $10 \times 12 = 120$ (N) · $5 \times 5 = 25$ (D) · $8 \times 5 = 40$ (H) · $5 \times 11 = 55$ (V) · $4 \times 12 = 48$ (B) · $8 \times 4 = 32$ (S) · $9 \times 12 = 108$ (L)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Neil Armstrong

$10 \div 1 = 10$ · $70 \div 10 = 7$ · $33 \div 3 = 11$ · $35 \div 7 = 5$ · $96 \div 8 = 12$ · $2 \div 2 = 1$ · $12 \div 4 = 3$ · $12 \div 3 = 4$ · $4 \div 2 = 2$ · $48 \div 6 = 8$ · $108 \div 12 = 9$