



The Cosmic Core Heist

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

Detective: _____ Date: _____

The gravity generator is offline and the Cosmic Core is gone! We need to find the Cosmic Saboteur before the whole space station floats away into the deep dark 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 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	SPACE SKILL	ASTRAL GEAR	SUITED HAND	VISOR GLOW COLOR	GEAR WEAKNESS
Cadet Kira	asteroid blasting	force fields	right-handed glove	silver spike hair	bright flashlights
Buzz Aldrin	asteroid blasting	rocket boots	left-handed glove	comet orange hair	bright flashlights
Neil Armstrong	laser piloting	stealth cloaks	left-handed glove	silver spike hair	loud sirens
Captain Comet	laser piloting	rocket boots	right-handed glove	neon blue hair	bright flashlights
Captain Star	gravity warping	force fields	right-handed glove	silver spike hair	loud sirens
Officer Nebula	laser piloting	force fields	left-handed glove	comet orange hair	freeze spray
Pilot Aurora	plasma hacking	rocket boots	left-handed glove	silver spike hair	loud sirens
Pilot Orion	asteroid blasting	force fields	left-handed glove	neon blue hair	loud sirens
Alan Shepard	laser piloting	solar shields	left-handed glove	comet orange hair	loud sirens
Pilot Jax	plasma hacking	force fields	left-handed glove	silver spike hair	loud sirens
Yuri Gagarin	laser piloting	magnet gloves	right-handed glove	comet orange hair	bright flashlights
Cadet Helix	plasma hacking	magnet gloves	right-handed glove	neon blue hair	freeze spray
Cadet Vega	laser piloting	rocket boots	right-handed glove	comet orange hair	freeze spray
John Glenn	asteroid blasting	solar shields	right-handed glove	comet orange hair	bright flashlights
Sally Ride	gravity warping	stealth cloaks	left-handed glove	neon blue hair	bright flashlights
Cadet Leo	gravity warping	magnet gloves	left-handed glove	silver spike hair	loud sirens
Cadet Luna	zero-g jumping	magnet gloves	left-handed glove	silver spike hair	loud sirens
Cadet Nova	gravity warping	force fields	right-handed glove	comet orange hair	loud sirens
Officer Cosmos	zero-g jumping	stealth cloaks	left-handed glove	comet orange hair	bright flashlights
Peggy Whitson	zero-g jumping	force fields	left-handed glove	neon blue hair	loud sirens
Pilot Polaris	plasma hacking	magnet gloves	left-handed glove	silver spike hair	freeze spray

CLUE 1 Addition

We counted the damaged solar panels in sector one and then added the broken panels in sector two to find the total damage.

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

T																T
9842	9690	5002	3601	4535	2036	2036	4873	4535	4686	6437	3910	5002	3895	4686	3910	9842

				T			T								
5079	3895	5002	3895	9842	5002	4873	2036	9842	9690	5455	2036	3910	4873	9318	3895

$6432 + 3410 = \square \rightarrow \text{T}$	$5139 + 4551 = \square \rightarrow \text{H}$	$1902 + 2008 = \square \rightarrow \text{O}$
$2958 + 1915 = \square \rightarrow \text{A}$	$1328 + 2273 = \square \rightarrow \text{V}$	$5307 + 4011 = \square \rightarrow \text{K}$
$2402 + 2284 = \square \rightarrow \text{N}$	$2442 + 3013 = \square \rightarrow \text{C}$	$1062 + 974 = \square \rightarrow \text{L}$
$2898 + 2104 = \square \rightarrow \text{E}$	$2638 + 2441 = \square \rightarrow \text{U}$	$1272 + 2623 = \square \rightarrow \text{S}$
$3087 + 1448 = \square \rightarrow \text{I}$	$2342 + 4095 = \square \rightarrow \text{D}$	

Scratch space:

CLUE 2 Subtraction

The ship computer had a set number of fuel canisters, but some were stolen. We subtracted the remaining canisters to see how many were lost.

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

T									T								
5178	4792	2572	5640	8850	8260	3620	1461	8333	5178	6564	1461	4583	3620	3620	2572	6564	1703

			T											
8260	2572	2169	5178	4792	1703	6479	6564	2572	6564	5210	8260	4583	4106	2572

$$6633 - 1455 = \square \rightarrow \text{[T]}$$

$$3225 - 1764 = \square \rightarrow \text{[R]}$$

$$5402 - 1296 = \square \rightarrow \text{[V]}$$

$$2331 - 628 = \square \rightarrow \text{[A]}$$

$$6414 - 3842 = \square \rightarrow \text{[E]}$$

$$12065 - 3805 = \square \rightarrow \text{[L]}$$

$$9902 - 3423 = \square \rightarrow \text{[N]}$$

$$6715 - 2132 = \square \rightarrow \text{[O]}$$

$$7243 - 1603 = \square \rightarrow \text{[C]}$$

$$6900 - 2108 = \square \rightarrow \text{[H]}$$

$$9323 - 4113 = \square \rightarrow \text{[G]}$$

$$4145 - 525 = \square \rightarrow \text{[P]}$$

$$12045 - 3195 = \square \rightarrow \text{[U]}$$

$$10873 - 2540 = \square \rightarrow \text{[I]}$$

$$6565 - 4396 = \square \rightarrow \text{[F]}$$

$$11430 - 4866 = \square \rightarrow \text{[D]}$$

Scratch space:

CLUE 3 Rounding

Our long-range space scanner cannot get an exact number of alien meteors, so we had to round the count to the nearest ten.

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

T																			
20	9000	70	2000	900	2000	2300	70	3000	20	1300	370	2000	2000	3000	370	300	70	1700	
90	430	110	30	900	1700	2000	230	300	70	4300	2000								

Round 18 to the nearest ten → **T**

Round 2,308 to the nearest thousand → **S**

Round 2,323 to the nearest hundred → **P**

Round 370 to the nearest ten → **A**

Round 230 to the nearest ten → **I**

Round 1,252 to the nearest hundred → **W**

Round 71 to the nearest ten → **E**

Round 27 to the nearest ten → **O**

Round 2,961 to the nearest thousand → **C**

Round 4,275 to the nearest hundred → **N**

Round 327 to the nearest hundred → **R**

Round 92 to the nearest ten → **B**

Round 8,719 to the nearest thousand → **H**

Round 106 to the nearest ten → **L**

Round 429 to the nearest ten → **Y**

Round 1,682 to the nearest hundred → **D**

Round 884 to the nearest hundred → **U**

Scratch space:

CLUE 4

Multiplication facts (1-12)

We found crates of space suits stacked in equal rows, so we multiplied the rows by the suits in each row to count them fast.

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

S						S											S
33	9	56	64	30	144	33	121	9	54	30	45	81	9	144	15	81	33
56	30	50	32	2	36	32	45	30	45	30	56	72	30	32			

$11 \times 3 = \square \rightarrow \boxed{\text{S}}$

$8 \times 4 = \square \rightarrow \boxed{\text{T}}$

$3 \times 3 = \square \rightarrow \boxed{\text{I}}$

$12 \times 6 = \square \rightarrow \boxed{\text{M}}$

$12 \times 12 = \square \rightarrow \boxed{\text{R}}$

$8 \times 8 = \square \rightarrow \boxed{\text{V}}$

$11 \times 11 = \square \rightarrow \boxed{\text{P}}$

$5 \times 6 = \square \rightarrow \boxed{\text{E}}$

$8 \times 7 = \square \rightarrow \boxed{\text{L}}$

$3 \times 5 = \square \rightarrow \boxed{\text{W}}$

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

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

$2 \times 1 = \square \rightarrow \boxed{\text{O}}$

$9 \times 4 = \square \rightarrow \boxed{\text{N}}$

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

$6 \times 9 = \square \rightarrow \boxed{\text{K}}$

Scratch space:

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

The rescue team had to share the remaining oxygen packs equally among the crew cabins, so we divided the total packs.

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:

$24 \div 2 = \boxed{}$

$20 \div 10 = \boxed{}$

$12 \div 2 = \boxed{}$

$9 \div 3 = \boxed{}$

$48 \div 6 = \boxed{}$

$32 \div 8 = \boxed{}$

$20 \div 2 = \boxed{}$

$42 \div 6 = \boxed{}$

$50 \div 10 = \boxed{}$

$66 \div 6 = \boxed{}$

$63 \div 7 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain hacked the plasma core, then activated a force field.
2. The villain hacked the plasma core, then zipped away with rocket boots.
3. The villain warped the ship gravity, then blocked the sensors with a solar shield.
4. The villain piloted the laser ship, then slipped past with a stealth cloak.
5. The villain piloted the laser ship, then grabbed the core with magnet gloves.
6. The villain jumped in zero gravity, then grabbed the core with magnet gloves.
7. The villain jumped in zero gravity, then activated a force field.
8. The villain piloted the laser ship, then zipped away with rocket boots.
9. The villain hacked the plasma core, then slipped past with a stealth cloak.
10. The villain warped the ship gravity, then slipped past with a stealth cloak.
11. The villain hacked the plasma core, then blocked the sensors with a solar shield.
12. The villain warped the ship gravity, then grabbed the core with magnet gloves.

Answer Key

The Cosmic Core Heist

Culprit: Pilot Jax

plasma hacking · force fields · left-handed glove · silver spike hair · loud sirens

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT USE STEALTH CLOAKS"

$6432 + 3410 = 9842$ (T) · $5139 + 4551 = 9690$ (H) · $1902 + 2008 = 3910$ (O) · $2958 + 1915 = 4873$ (A) · $1328 + 2273 = 3601$ (V) · $5307 + 4011 = 9318$ (K) · $2402 + 2284 = 4686$ (N) · $2442 + 3013 = 5455$ (C) · $1062 + 974 = 2036$ (L) · $2898 + 2104 = 5002$ (E) · $2638 + 2441 = 5079$ (U) · $1272 + 2623 = 3895$ (S) · $3087 + 1448 = 4535$ (I) · $2342 + 4095 = 6437$ (D)

Clue 2 (Subtraction): "THE CULPRIT DROPPED A LEFT HANDED GLOVE"

$6633 - 1455 = 5178$ (T) · $3225 - 1764 = 1461$ (R) · $5402 - 1296 = 4106$ (V) · $2331 - 628 = 1703$ (A) · $6414 - 3842 = 2572$ (E) · $12065 - 3805 = 8260$ (L) · $9902 - 3423 = 6479$ (N) · $6715 - 2132 = 4583$ (O) · $7243 - 1603 = 5640$ (C) · $6900 - 2108 = 4792$ (H) · $9323 - 4113 = 5210$ (G) · $4145 - 525 = 3620$ (P) · $12045 - 3195 = 8850$ (U) · $10873 - 2540 = 8333$ (I) · $6565 - 4396 = 2169$ (F) · $11430 - 4866 = 6564$ (D)

Clue 3 (Rounding): "THE SUSPECT WAS SCARED BY LOUD SIRENS"

Round 18 to the nearest ten = 20 (T) · Round 2,308 to the nearest thousand = 2000 (S) · Round 2,323 to the nearest hundred = 2300 (P) · Round 370 to the nearest ten = 370 (A) · Round 230 to the nearest ten = 230 (I) · Round 1,252 to the nearest hundred = 1300 (W) · Round 71 to the nearest ten = 70 (E) · Round 27 to the nearest ten = 30 (O) · Round 2,961 to the nearest thousand = 3000 (C) · Round 4,275 to the nearest hundred = 4300 (N) · Round 327 to the nearest hundred = 300 (R) · Round 92 to the nearest ten = 90 (B) · Round 8,719 to the nearest thousand = 9000 (H) · Round 106 to the nearest ten = 110 (L) · Round 429 to the nearest ten = 430 (Y) · Round 1,682 to the nearest hundred = 1700 (D) · Round 884 to the nearest hundred = 900 (U)

Clue 4 (Multiplication facts (1-12)): "SILVER SPIKE HAIR WAS LEFT ON THE HELMET"

$11 \times 3 = 33$ (S) · $8 \times 4 = 32$ (T) · $3 \times 3 = 9$ (I) · $12 \times 6 = 72$ (M) · $12 \times 12 = 144$ (R) · $8 \times 8 = 64$ (V) · $11 \times 11 = 121$ (P) · $5 \times 6 = 30$ (E) · $8 \times 7 = 56$ (L) · $3 \times 5 = 15$ (W) · $9 \times 9 = 81$ (A) · $9 \times 5 = 45$ (H) · $2 \times 1 = 2$ (O) · $9 \times 4 = 36$ (N) · $5 \times 10 = 50$ (F) · $6 \times 9 = 54$ (K)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Pilot Jax

$24 \div 2 = 12$ · $20 \div 10 = 2$ · $12 \div 2 = 6$ · $9 \div 3 = 3$ · $48 \div 6 = 8$ · $32 \div 8 = 4$ · $20 \div 2 = 10$ · $42 \div 6 = 7$ · $50 \div 10 = 5$ · $66 \div 6 = 11$ · $63 \div 7 = 9$