



The Starbase Alpha Heist

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

Detective: _____ **Date:** _____

Oh no! A sneaky Cosmic Bandit has broken into the main vault at Starbase Alpha and stolen the Golden Rocket Engine! Station Commander Nova needs your help. You must solve the math puzzles and follow the cosmic clues to catch the bandit before their spaceship launches 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 Bandit 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	BACKUP GADGET	VISOR COLOR	SPACESUIT STRIPE	SLOWING AGENT
Kalpana Chawla	Plasma Glove	Cyber Helmet	Red Visor	Green Stripe	Solar Net
Chris Hadfield	Gravity Boots	Decoder Ring	Blue Visor	Purple Stripe	Moon Dust
Gene Kranz	Gravity Boots	Gravity Disruptor	Blue Visor	Green Stripe	Freeze Ray
Mary Jackson	Gravity Boots	Space Magnet	Red Visor	Purple Stripe	Solar Net
Bernard Harris	Shield Belt	Gravity Disruptor	Blue Visor	Purple Stripe	Moon Dust
Dorothy Vaughan	Rocket Pack	Decoder Ring	Blue Visor	Orange Stripe	Freeze Ray
Yuri Gagarin	Plasma Glove	Gravity Disruptor	Red Visor	Orange Stripe	Freeze Ray
Katherine Johnson	Laser Lasso	Decoder Ring	Red Visor	Green Stripe	Solar Net
Sunita Williams	Plasma Glove	Gravity Disruptor	Blue Visor	Orange Stripe	Freeze Ray
Neil Armstrong	Shield Belt	Starlight Cloak	Blue Visor	Orange Stripe	Freeze Ray
Jim Lovell	Shield Belt	Gravity Disruptor	Red Visor	Green Stripe	Moon Dust
Valentina Tereshkova	Shield Belt	Decoder Ring	Blue Visor	Orange Stripe	Freeze Ray
Fred Haise	Laser Lasso	Starlight Cloak	Blue Visor	Orange Stripe	Moon Dust
Sally Ride	Laser Lasso	Starlight Cloak	Red Visor	Orange Stripe	Freeze Ray
Peggy Whitson	Shield Belt	Starlight Cloak	Red Visor	Orange Stripe	Freeze Ray
Michael Collins	Gravity Boots	Cyber Helmet	Blue Visor	Orange Stripe	Freeze Ray
Mae Jemison	Plasma Glove	Space Magnet	Blue Visor	Orange Stripe	Solar Net
Charles Bolden	Plasma Glove	Starlight Cloak	Red Visor	Orange Stripe	Solar Net
Scott Kelly	Plasma Glove	Cyber Helmet	Red Visor	Orange Stripe	Solar Net
John Glenn	Plasma Glove	Starlight Cloak	Blue Visor	Orange Stripe	Freeze Ray
Buzz Aldrin	Rocket Pack	Gravity Disruptor	Blue Visor	Purple Stripe	Moon Dust

CLUE 1

We must tally up the total solar batteries left in the storage room to unlock the security camera log.

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

5731 7650 6264 4118 3694 3412 4246 9206 5731 4246 4523 6264 9416 3412 4523 5731 8740

3694 4246 6264 9871 4523 4246 6264 3890 3890 9206 3412 9199

$$2509 + 3222 = \boxed{} \rightarrow \boxed{\text{T}}$$

$2630 + 1488 = \boxed{} \rightarrow \mathbf{B}$

$$2072 + 1340 = \boxed{} \rightarrow \boxed{\mathbf{N}}$$

$$3919 + 5497 = \boxed{} \rightarrow \boxed{\text{S}}$$

$4214 + 5657 = \boxed{} \rightarrow \boxed{\text{C}}$

$$5138 + 4061 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$1840 + 2050 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$2130 + 4134 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$1557 + 2966 = \boxed{} \rightarrow \boxed{\mathbf{0}}$$

$$3745 + 5461 = \boxed{} \rightarrow \boxed{}$$

$2601 + 1645 = \boxed{} \rightarrow \boxed{\text{D}}$

2459 + 1235 = → **A**

$$3242 + 4408 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$5669 + 3071 = \boxed{} \rightarrow \boxed{\text{U}}$$

Scratch space:

CLUE 2 Rounding

The damaged radar screen only shows rounded distances, so estimate the closest spaceship to get the next clue.

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

A																
300	3000	110	700	1100	170	90	3000	1300	110	430	3700	5000	170	370	700	4300

	A				
1100	300	370	370	3700	3700

Round 298 to the nearest hundred → **A**

Round 166 to the nearest ten → **I**

Round 3,479 to the nearest thousand → **G**

Round 1,321 to the nearest hundred → **B**

Round 367 to the nearest ten → **S**

Round 3,699 to the nearest hundred → **E**

Round 89 to the nearest ten → **N**

Round 4,284 to the nearest hundred → **R**

Round 740 to the nearest hundred → **O**

Round 4,801 to the nearest thousand → **V**

Round 1,133 to the nearest hundred → **W**

Round 426 to the nearest ten → **U**

Round 113 to the nearest ten → **L**

Scratch space:

CLUE 3

Subtraction

Help the crew calculate how much rocket fuel leaked from the tank after the bandit sabotaged the valves.

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

A								A									
2137	3789	4220	5032	5032	3059	5032	4220	2137	2533	5229	2582	4785	4785	6909	8307	3887	4555
				A													
8307	1299	5032	4051	2137	7014	2474	2582	8307									

$2582 - 445 = \square \rightarrow \boxed{\text{A}}$

$8213 - 1199 = \square \rightarrow \boxed{\text{N}}$

$5959 - 1908 = \square \rightarrow \boxed{\text{B}}$

$2282 - 983 = \square \rightarrow \boxed{\text{H}}$

$2663 - 81 = \square \rightarrow \boxed{\text{I}}$

$5625 - 1405 = \square \rightarrow \boxed{\text{R}}$

$6276 - 1244 = \square \rightarrow \boxed{\text{E}}$

$10947 - 4038 = \square \rightarrow \boxed{\text{S}}$

$10015 - 1708 = \square \rightarrow \boxed{\text{T}}$

$7853 - 2624 = \square \rightarrow \boxed{\text{W}}$

$8593 - 4804 = \square \rightarrow \boxed{\text{F}}$

$6183 - 1628 = \square \rightarrow \boxed{\text{P}}$

$5450 - 665 = \square \rightarrow \boxed{\text{L}}$

$3793 - 734 = \square \rightarrow \boxed{\text{Z}}$

$2711 - 237 = \square \rightarrow \boxed{\text{D}}$

$3980 - 1447 = \square \rightarrow \boxed{\text{Y}}$

$8202 - 4315 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

Count the total laser grid beams by multiplying the rows of sensors across the corridor wall.

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

S									S	S						
77	121	48	9	9	25	49	96	40	77	77	15	16	100	49	99	

						S					
16	96	49	99	66	80	77	72	96	64	30	80

$7 \times 11 = \square \rightarrow \text{S}$

$8 \times 12 = \square \rightarrow \text{R}$

$12 \times 6 = \square \rightarrow \text{T}$

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

$9 \times 11 = \square \rightarrow \text{N}$

$8 \times 8 = \square \rightarrow \text{I}$

$3 \times 5 = \square \rightarrow \text{H}$

$4 \times 4 = \square \rightarrow \text{O}$

$11 \times 6 = \square \rightarrow \text{G}$

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

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

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

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

$8 \times 10 = \square \rightarrow \text{E}$

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

$6 \times 5 = \square \rightarrow \text{P}$

$11 \times 11 = \square \rightarrow \text{C}$

Scratch space:

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

Divide the spare oxygen tanks equally among the rescue teams so they can search the base safely.

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:

$84 \div 12 = \boxed{}$

$9 \div 3 = \boxed{}$

$32 \div 8 = \boxed{}$

$96 \div 8 = \boxed{}$

$36 \div 6 = \boxed{}$

$36 \div 4 = \boxed{}$

$32 \div 4 = \boxed{}$

$14 \div 7 = \boxed{}$

$40 \div 4 = \boxed{}$

$7 \div 7 = \boxed{}$

$10 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain zooms past the defense turrets with a rocket pack, then pulls the metal latch open using a space magnet.
2. The villain activates a glowing shield belt, then cracks the mainframe code with a decoder ring.
3. The villain floats through the airlock with gravity boots, then overrides the computer core with a cyber helmet.
4. The villain activates a glowing shield belt, then fades from view using a starlight cloak.
5. The villain floats through the airlock with gravity boots, then cracks the mainframe code with a decoder ring.
6. The villain blasts open the vault door with a plasma glove, then pulls the metal latch open using a space magnet.
7. The villain blasts open the vault door with a plasma glove, then scrambles the gravity sensors with a gravity disruptor.
8. The villain floats through the airlock with gravity boots, then fades from view using a starlight cloak.
9. The villain zooms past the defense turrets with a rocket pack, then cracks the mainframe code with a decoder ring.
10. The villain swings across the control room using a laser lasso, then fades from view using a starlight cloak.
11. The villain blasts open the vault door with a plasma glove, then fades from view using a starlight cloak.
12. The villain blasts open the vault door with a plasma glove, then cracks the mainframe code with a decoder ring.

Answer Key

The Starbase Alpha Heist

Culprit: John Glenn

Plasma Glove · Starlight Cloak · Blue Visor · Orange Stripe · Freeze Ray

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE BANDIT DOES NOT USE A DECODER RING"

$2509 + 3222 = 5731$ (T) · $2630 + 1488 = 4118$ (B) · $2072 + 1340 = 3412$ (N) · $3919 + 5497 = 9416$ (S) · $4214 + 5657 = 9871$ (C) · $5138 + 4061 = 9199$ (G) · $1840 + 2050 = 3890$ (R) · $2130 + 4134 = 6264$ (E) · $1557 + 2966 = 4523$ (O) · $3745 + 5461 = 9206$ (I) · $2601 + 1645 = 4246$ (D) · $2459 + 1235 = 3694$ (A) · $3242 + 4408 = 7650$ (H) · $5669 + 3071 = 8740$ (U)

Clue 2 (Rounding): "A GLOWING BLUE VISOR WAS SEEN"

Round 298 to the nearest hundred = 300 (A) · Round 166 to the nearest ten = 170 (I) · Round 3,479 to the nearest thousand = 3000 (G) · Round 1,321 to the nearest hundred = 1300 (B) · Round 367 to the nearest ten = 370 (S) · Round 3,699 to the nearest hundred = 3700 (E) · Round 89 to the nearest ten = 90 (N) · Round 4,284 to the nearest hundred = 4300 (R) · Round 740 to the nearest hundred = 700 (O) · Round 4,801 to the nearest thousand = 5000 (V) · Round 1,133 to the nearest hundred = 1100 (W) · Round 426 to the nearest ten = 430 (U) · Round 113 to the nearest ten = 110 (L)

Clue 3 (Subtraction): "A FREEZE RAY WILL STOP THE BANDIT"

$2582 - 445 = 2137$ (A) · $8213 - 1199 = 7014$ (N) · $5959 - 1908 = 4051$ (B) · $2282 - 983 = 1299$ (H) · $2663 - 81 = 2582$ (I) · $5625 - 1405 = 4220$ (R) · $6276 - 1244 = 5032$ (E) · $10947 - 4038 = 6909$ (S) · $10015 - 1708 = 8307$ (T) · $7853 - 2624 = 5229$ (W) · $8593 - 4804 = 3789$ (F) · $6183 - 1628 = 4555$ (P) · $5450 - 665 = 4785$ (L) · $3793 - 734 = 3059$ (Z) · $2711 - 237 = 2474$ (D) · $3980 - 1447 = 2533$ (Y) · $8202 - 4315 = 3887$ (O)

Clue 4 (Multiplication facts (1-12)): "SCUFF MARKS SHOW AN ORANGE STRIPE"

$7 \times 11 = 77$ (S) · $8 \times 12 = 96$ (R) · $12 \times 6 = 72$ (T) · $5 \times 5 = 25$ (M) · $9 \times 11 = 99$ (N) · $8 \times 8 = 64$ (I) · $3 \times 5 = 15$ (H) · $4 \times 4 = 16$ (O) · $11 \times 6 = 66$ (G) · $3 \times 3 = 9$ (F) · $10 \times 10 = 100$ (W) · $5 \times 8 = 40$ (K) · $7 \times 7 = 49$ (A) · $8 \times 10 = 80$ (E) · $12 \times 4 = 48$ (U) · $6 \times 5 = 30$ (P) · $11 \times 11 = 121$ (C)

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

$84 \div 12 = 7$ · $9 \div 3 = 3$ · $32 \div 8 = 4$ · $96 \div 8 = 12$ · $36 \div 6 = 6$ · $36 \div 4 = 9$ · $32 \div 4 = 8$ · $14 \div 7 = 2$ · $40 \div 4 = 10$ · $7 \div 7 = 1$ · $10 \div 2 = 5$