



The Cosmic Map Caper

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

Detective: _____ **Date:** _____

The Quantum Star Map has been swiped from the high-security vault at Nova Outpost! Without it, our ships will get lost in deep space. Station Commander Leo needs your help to track down the sneaky Cosmic Bandit before they escape past the asteroid belt.

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	SPACESUIT TOOL	BACKUP GEAR	WRITING HAND	HELMET STRIPE	BANDIT WEAKNESS
Franklin Chang-Diaz	Gravity Boots	Energy Barrier	Right-handed writer	Green helmet stripe	Space dust
Helen Sharman	Plasma Claws	Turbo Jetpack	Right-handed writer	Yellow helmet stripe	Freeze ray
Charles Bolden	Gravity Boots	Stealth Cloak	Right-handed writer	Green helmet stripe	Freeze ray
Michael Collins	Laser Torch	Comet Tracker	Right-handed writer	Yellow helmet stripe	Space dust
Sally Ride	Sonic Scanner	Solar Shield	Right-handed writer	Yellow helmet stripe	Freeze ray
Bernard Harris	Gravity Boots	Turbo Jetpack	Right-handed writer	Yellow helmet stripe	Freeze ray
Guion Bluford	Laser Torch	Solar Shield	Left-handed writer	Yellow helmet stripe	Space dust
Buzz Aldrin	Laser Torch	Stealth Cloak	Right-handed writer	Yellow helmet stripe	Freeze ray
Yuri Gagarin	Gravity Boots	Stealth Cloak	Right-handed writer	Yellow helmet stripe	Magnet blast
Chris Hadfield	Laser Torch	Solar Shield	Left-handed writer	Green helmet stripe	Magnet blast
Alexey Leonov	Plasma Claws	Comet Tracker	Right-handed writer	Yellow helmet stripe	Magnet blast
Guy Bluford	Gravity Boots	Stealth Cloak	Left-handed writer	Red helmet stripe	Magnet blast
Alan Shepard	Gravity Boots	Comet Tracker	Right-handed writer	Yellow helmet stripe	Space dust
Mae Jemison	Sonic Scanner	Solar Shield	Right-handed writer	Red helmet stripe	Freeze ray
Peggy Whitson	Plasma Claws	Energy Barrier	Left-handed writer	Yellow helmet stripe	Magnet blast
Gherman Titov	Sonic Scanner	Solar Shield	Right-handed writer	Green helmet stripe	Freeze ray
Fred Haise	Laser Torch	Energy Barrier	Right-handed writer	Yellow helmet stripe	Freeze ray
Yi So-yeon	Gravity Boots	Energy Barrier	Left-handed writer	Yellow helmet stripe	Freeze ray
Neil Armstrong	Laser Torch	Solar Shield	Right-handed writer	Red helmet stripe	Freeze ray
John Glenn	Plasma Claws	Comet Tracker	Right-handed writer	Green helmet stripe	Space dust
Valentina Tereshkova	Plasma Claws	Energy Barrier	Right-handed writer	Green helmet stripe	Space dust

CLUE 1

We found a logbook with word problems about rocket cargo. Solving them reveals a secret code about the bandit's gear!

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

The diagram shows two rows of boxes, each representing a sequence of numbers. The top row has 15 boxes, and the bottom row has 15 boxes. Some boxes are shaded orange and contain the letter 'T'. Below each box is a number.

Top row (left to right):

- Box 1: Orange, contains 'T', number 2300
- Box 2: White, number 290
- Box 3: White, number 370
- Box 4: White, number 4300
- Box 5: White, number 2000
- Box 6: White, number 50
- Box 7: White, number 1300
- Box 8: White, number 130
- Box 9: Orange, contains 'T', number 2300
- Box 10: White, number 1300
- Box 11: White, number 300
- Box 12: White, number 370
- Box 13: White, number 9000
- Box 14: White, number 50
- Box 15: White, number 300

Bottom row (left to right):

- Box 1: White, number 2000
- Box 2: White, number 9000
- Box 3: Orange, contains 'T', number 2300
- Box 4: White, number 370
- Box 5: White, number 2000
- Box 6: White, number 1100
- Box 7: Orange, contains 'T', number 2300
- Box 8: White, number 290
- Box 9: White, number 500
- Box 10: White, number 1100
- Box 11: White, number 300
- Box 12: White, number 2000
- Box 13: White, number 170

Round 2,278 to the nearest hundred → **T**

Round 8,919 to the nearest thousand $\rightarrow$ **S**

Round 369 to the nearest ten $\rightarrow$ **E**

Round 108 to the nearest ten $\rightarrow$ **U**

Round 54 to the nearest ten → **N**

Round 2,390 to the nearest thousand → **A**

Round 4,316 to the nearest hundred → **B**

Round 1,339 to the nearest hundred → **D**

Round 478 to the nearest hundred → **C**

Round 128 to the nearest ten $\rightarrow$

Round 293 to the nearest ten $\rightarrow$ **H**

Round 308 to the nearest hundred $\rightarrow$

Round 1,114 to the nearest hundred → **L**

Round 171 to the nearest ten $\rightarrow$ **K**

Scratch space:

CLUE 2

Word problems

The space radar is fuzzy. It only shows rounded numbers for the bandit's distance, but we can use them to pinpoint their path!

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R									D	E	D	W	R			E	R
24	63	71	27	79	27	23	58					24	63	79		24	

Commander Leo lined up 12 rows of 2 oxygen tanks. How many oxygen tanks in all?

Answer: → **R**

There were 107 star badges. 28 were used up. How many star badges are left?

Answer: → **T**

Commander Leo lined up 9 rows of 7 space boots. How many space boots in all?

Answer: → **I**

There were 71 space boots. 13 were used up. How many space boots are left?

Answer: → **N**

There were 95 space boots. 24 were used up. How many space boots are left?

Answer: → **G**

Commander Leo lined up 3 rows of 9 star badges. How many star badges in all?

Answer: → **H**

There were 34 star badges. 11 were used up. How many star badges are left?

Answer: → **A**

Scratch space:

CLUE 3 Addition

We need to count all the spare fuel canisters left in the hangar. Adding up the piles gives us the security card we need!

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

A								A					
4579	2927	3391	9590	9590	8479	9590	3391	4579	3125	5284	8395	4339	4339

										A					
2927	3391	9590	9590	8479	9590	5031	8132	8395	4820	4839	4579	7207	8716	8395	5031

3087 + 1492 = → A	4841 + 3638 = → Z	1220 + 1905 = → Y
5324 + 4266 = → E	2314 + 2717 = → T	3565 + 5151 = → D
1149 + 1778 = → F	3052 + 4155 = → N	1967 + 2372 = → L
1223 + 2168 = → R	3440 + 1844 = → W	1510 + 3310 = → S
3010 + 5122 = → H	1787 + 3052 = → B	4644 + 3751 = → I

Scratch space:

CLUE 4

Some moon rocks are missing from the display case! Subtracting the leftover rocks tells us how many the thief took.

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

Diagram illustrating a sequence of numbers (8588, 5158, 4103, 5874, 2986, 1242, 8970, 5094, 8588, 5158, 2986, 6443, 2986, 7377, 4103, 7401, 7401, 4977, 4117) arranged in two rows. The top row contains 16 boxes, and the bottom row contains 16 boxes. The boxes are labeled with numbers, and some boxes are shaded orange and labeled 'T', indicating they are 'true' or 'present'.

13463 - 4875 = → **T**

9578 - 821 = → **R**

$$9605 - 4286 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$4109 - 2867 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$9435 - 2034 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$5251 - 93 = \boxed{} \rightarrow \boxed{\text{H}}$$

$9300 - 330 = \boxed{} \rightarrow \boxed{\text{D}}$

$8626 - 2752 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$$8654 - 3560 = \boxed{} \rightarrow \boxed{}$$

$$7281 - 1488 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$7618 - 2641 = \boxed{} \rightarrow \boxed{0}$$

$3874 - 888 = \boxed{} \rightarrow \boxed{\text{A}}$

$$6299 - 2196 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$5897 - 1780 = \boxed{} \rightarrow \boxed{\text{W}}$$

$7821 - 444 = \boxed{} \rightarrow \boxed{\text{Y}}$

$10637 - 4194 = \boxed{} \rightarrow \boxed{\text{S}}$

Scratch space:

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

To reboot the station cameras, we must split the main power grid into equal shares. This will show us the final clue!

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:

$66 \div 11 = \boxed{}$

$20 \div 10 = \boxed{}$

$40 \div 4 = \boxed{}$

$48 \div 6 = \boxed{}$

$60 \div 12 = \boxed{}$

$110 \div 10 = \boxed{}$

$36 \div 3 = \boxed{}$

$28 \div 7 = \boxed{}$

$3 \div 3 = \boxed{}$

$21 \div 3 = \boxed{}$

$9 \div 1 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain pulls the map away with a tractor beam, then zooms away on a turbo jetpack.
2. The villain slashes open the safe with plasma claws, then zooms away on a turbo jetpack.
3. The villain activates gravity boots to walk on walls, then zooms away on a turbo jetpack.
4. The villain pulls the map away with a tractor beam, then navigates the debris with a comet tracker.
5. The villain sweeps the room with a sonic scanner, then fades into the dark using a stealth cloak.
6. The villain uses a laser torch to cut the lock, then escapes safely behind an energy barrier.
7. The villain pulls the map away with a tractor beam, then fades into the dark using a stealth cloak.
8. The villain activates gravity boots to walk on walls, then escapes safely behind an energy barrier.
9. The villain activates gravity boots to walk on walls, then fades into the dark using a stealth cloak.
10. The villain sweeps the room with a sonic scanner, then blocks the alarm with a solar shield.
11. The villain pulls the map away with a tractor beam, then escapes safely behind an energy barrier.
12. The villain slashes open the safe with plasma claws, then escapes safely behind an energy barrier.

Answer Key

The Cosmic Map Caper

Culprit: Bernard Harris

Gravity Boots · Turbo Jetpack · Right-handed writer · Yellow helmet stripe · Freeze ray

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE BANDIT DOES NOT USE A STEALTH CLOAK"

Round 2,278 to the nearest hundred = 2300 (T) · Round 8,919 to the nearest thousand = 9000 (S) · Round 369 to the nearest ten = 370 (E) · Round 108 to the nearest ten = 110 (U) · Round 54 to the nearest ten = 50 (N) · Round 2,390 to the nearest thousand = 2000 (A) · Round 4,316 to the nearest hundred = 4300 (B) · Round 1,339 to the nearest hundred = 1300 (D) · Round 478 to the nearest hundred = 500 (C) · Round 128 to the nearest ten = 130 (I) · Round 293 to the nearest ten = 290 (H) · Round 308 to the nearest hundred = 300 (O) · Round 1,114 to the nearest hundred = 1100 (L) · Round 171 to the nearest ten = 170 (K)

Clue 2 (Word problems): "RIGHT HANDED WRITER"

Commander Leo lined up 12 rows of 2 oxygen tanks. How many oxygen tanks in all? = 24 (R) · There were 107 star badges. 28 were used up. How many star badges are left? = 79 (T) · Commander Leo lined up 9 rows of 7 space boots. How many space boots in all? = 63 (I) · There were 71 space boots. 13 were used up. How many space boots are left? = 58 (N) · There were 95 space boots. 24 were used up. How many space boots are left? = 71 (G) · Commander Leo lined up 3 rows of 9 star badges. How many star badges in all? = 27 (H) · There were 34 star badges. 11 were used up. How many star badges are left? = 23 (A)

Clue 3 (Addition): "A FREEZE RAY WILL FREEZE THIS BANDIT"

$3087 + 1492 = 4579$ (A) · $4841 + 3638 = 8479$ (Z) · $1220 + 1905 = 3125$ (Y) · $5324 + 4266 = 9590$ (E) · $2314 + 2717 = 5031$ (T) · $3565 + 5151 = 8716$ (D) · $1149 + 1778 = 2927$ (F) · $3052 + 4155 = 7207$ (N) · $1967 + 2372 = 4339$ (L) · $1223 + 2168 = 3391$ (R) · $3440 + 1844 = 5284$ (W) · $1510 + 3310 = 4820$ (S) · $3010 + 5122 = 8132$ (H) · $1787 + 3052 = 4839$ (B) · $4644 + 3751 = 8395$ (I)

Clue 4 (Subtraction): "THE BANDIT HAS A YELLOW STRIPE ON THE HELMET"

$13463 - 4875 = 8588$ (T) · $9578 - 821 = 8757$ (R) · $9605 - 4286 = 5319$ (M) · $4109 - 2867 = 1242$ (N) · $9435 - 2034 = 7401$ (L) · $5251 - 93 = 5158$ (H) · $9300 - 330 = 8970$ (D) · $8626 - 2752 = 5874$ (B) · $8654 - 3560 = 5094$ (I) · $7281 - 1488 = 5793$ (P) · $7618 - 2641 = 4977$ (O) · $3874 - 888 = 2986$ (A) · $6299 - 2196 = 4103$ (E) · $5897 - 1780 = 4117$ (W) · $7821 - 444 = 7377$ (Y) · $10637 - 4194 = 6443$ (S)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Bernard Harris

$66 \div 11 = 6$ · $20 \div 10 = 2$ · $40 \div 4 = 10$ · $48 \div 6 = 8$ · $60 \div 12 = 5$ · $110 \div 10 = 11$ · $36 \div 3 = 12$ · $28 \div 7 = 4$ · $3 \div 3 = 1$ · $21 \div 3 = 7$ · $9 \div 1 = 9$