



The Great Moon Base Heist

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

Detective: _____ **Date:** _____

Oh no! A mysterious Cosmic Bandit has snuck into Astro-Dome Delta and snatched the rare Golden Moon Meteorite right out of the display case! The Chief Astronomer needs your help to decode the clues, track down the bandit, and save the moon colony's biggest treasure!

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 SUIT UPGRADE	ALIEN GADGET	HELMET ANTENNA SIDE	SPACE CADET HAIR	SPACE FOOD WEAKNESS
Alan Shepard	solar shield	portal gun	right side	cosmic purple	tang orange juice
Nova Star	jetpack wings	freeze ray	right side	cosmic purple	tang orange juice
Neil Armstrong	radar goggles	gravity wand	right side	cosmic purple	freeze dried ice cream
Buzz Aldrin	solar shield	tractor beam	right side	neon green	tang orange juice
Ellen Ochoa	laser glove	tractor beam	left side	neon green	tang orange juice
Guion Bluford	laser glove	freeze ray	right side	stardust silver	tang orange juice
Halley Comet	radar goggles	portal gun	left side	neon green	freeze dried ice cream
Commander Comet	laser glove	tractor beam	left side	stardust silver	freeze dried ice cream
Sally Ride	radar goggles	shrink beam	right side	cosmic purple	tang orange juice
Stephen Hawking	gravity boots	tractor beam	right side	stardust silver	space cheese blocks
Chris Hadfield	solar shield	shrink beam	right side	cosmic purple	tang orange juice
Mae Jemison	gravity boots	portal gun	right side	stardust silver	space cheese blocks
Peggy Whitson	solar shield	shrink beam	left side	stardust silver	freeze dried ice cream
Margaret Hamilton	solar shield	shrink beam	left side	cosmic purple	tang orange juice
Valentina Tereshkova	jetpack wings	tractor beam	right side	stardust silver	tang orange juice
Ray Nebula	jetpack wings	portal gun	right side	neon green	space cheese blocks
Michael Collins	jetpack wings	tractor beam	right side	cosmic purple	tang orange juice
Yuri Gagarin	gravity boots	tractor beam	right side	cosmic purple	freeze dried ice cream
Katherine Johnson	gravity boots	tractor beam	right side	neon green	space cheese blocks
Carl Sagan	laser glove	gravity wand	left side	stardust silver	space cheese blocks
John Glenn	radar goggles	shrink beam	right side	stardust silver	tang orange juice

CLUE 1

The Bandit ran past the security radar, but the radar screen only shows rounded numbers. Round the distance to the nearest ten to find the first clue!

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

Diagram illustrating a sequence of numbers (likely representing a binary sequence or a sequence of states) across two rows of boxes. The boxes are arranged in two rows, and the numbers below them represent the values in each position.

Row 1 (Top):

- Box 1: T (shaded orange)
- Box 2: (empty)
- Box 3: (empty)
- Box 4: (empty)
- Box 5: (empty)
- Box 6: (empty)
- Box 7: (empty)
- Box 8: (empty)
- Box 9: (empty)
- Box 10: (empty)
- Box 11: (empty)
- Box 12: (empty)
- Box 13: (empty)
- Box 14: (empty)
- Box 15: T (shaded orange)

Row 2 (Bottom):

- Box 1: (empty)
- Box 2: (empty)
- Box 3: (empty)
- Box 4: (empty)
- Box 5: T (shaded orange)
- Box 6: (empty)
- Box 7: (empty)
- Box 8: (empty)
- Box 9: (empty)
- Box 10: (empty)
- Box 11: (empty)
- Box 12: (empty)

Numbers below the boxes (Row 1):

- 2900, 230, 5000, 290, 2300, 70, 70, 900, 2300, 90, 30, 1700, 5000, 200, 90, 1700, 2900

Numbers below the boxes (Row 2):

- 1300, 200, 5000, 900, 3000, 1700, 2000, 2900, 900, 70, 9000, 1300, 90

Round 2,863 to the nearest hundred → **T**

Round 91 to the nearest ten $\rightarrow$ **N**

Round 231 to the nearest ten $\rightarrow$ **H**

Round 2,276 to the nearest hundred →

Round 30 to the nearest ten $\rightarrow$ **D**

Round 4,972 to the nearest thousand → **E**

Round 1,269 to the nearest hundred → **U**

Round 1,669 to the nearest thousand $\rightarrow$ **R**

Round 202 to the nearest hundred $\rightarrow$ **S**

Round 74 to the nearest ten $\rightarrow$ **L**

Round 3,476 to the nearest thousand $\rightarrow$ **P**

Round 291 to the nearest ten $\rightarrow$ **V**

Round 883 to the nearest hundred $\rightarrow$ **A**

Round 9,129 to the nearest thousand → **G**

Round 1,670 to the nearest hundred →

Scratch space:

CLUE 2 Addition

We found a scrap of paper where the bandit added up stolen oxygen tanks. Add the numbers of tanks to unlock the next clue!

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

T																			
5431	8548	5883	5392	9889	3588	8548	5431	4411	9889	4237	5883	2953	8555	5431	5883	8555	8555	2953	
3858	2953	4411	4411	5883	5883	8555													

$$3486 + 1945 = \boxed{} \rightarrow \boxed{T}$$

$$2408 + 1180 = \boxed{} \rightarrow \boxed{G}$$

$$5562 + 4327 = \boxed{} \rightarrow \boxed{I}$$

$$2588 + 1270 = \boxed{} \rightarrow \boxed{W}$$

$$2622 + 5926 = \boxed{} \rightarrow \boxed{H}$$

$$1403 + 3008 = \boxed{} \rightarrow \boxed{S}$$

$$2685 + 2707 = \boxed{} \rightarrow \boxed{R}$$

$$2392 + 1845 = \boxed{} \rightarrow \boxed{D}$$

$$2220 + 3663 = \boxed{} \rightarrow \boxed{E}$$

$$939 + 2014 = \boxed{} \rightarrow \boxed{A}$$

$$4902 + 3653 = \boxed{} \rightarrow \boxed{N}$$

Scratch space:

CLUE 3
Subtraction

The main computer is locked. Subtract the broken solar panels from the total count to bypass the security screen!

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

T														
1142	4842	5900	1133	2651	1636	4842	5900	1133	1218	6635	8730	5764	7327	1218
						T								
5998	7327	4842	1636	1218	4469	1142	1661	1218	3484	5764	4024	4024	4842	5764

$2546 - 1404 = \square \rightarrow \text{[T]}$

$10978 - 4343 = \square \rightarrow \text{[J]}$

$3316 - 2098 = \square \rightarrow \text{[E]}$

$4577 - 2941 = \square \rightarrow \text{[R]}$

$6819 - 2795 = \square \rightarrow \text{[L]}$

$5645 - 803 = \square \rightarrow \text{[A]}$

$10544 - 3217 = \square \rightarrow \text{[C]}$

$7200 - 4549 = \square \rightarrow \text{[O]}$

$7192 - 2723 = \square \rightarrow \text{[D]}$

$8153 - 4669 = \square \rightarrow \text{[V]}$

$8729 - 2965 = \square \rightarrow \text{[I]}$

$13202 - 4472 = \square \rightarrow \text{[U]}$

$6247 - 249 = \square \rightarrow \text{[S]}$

$2293 - 632 = \square \rightarrow \text{[H]}$

$5907 - 7 = \square \rightarrow \text{[N]}$

$2353 - 1220 = \square \rightarrow \text{[G]}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The escape pod bay has rows of moon boot footprints. Multiply the number of rows by the boots per row to see where the bandit went!

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

W													
36	30	22	55	110	64	99	15	45	55	88	32	4	45

50	110	10	50	120	30	66	15	4	10

$6 \times 6 = \square \rightarrow \boxed{W}$

$5 \times 3 = \square \rightarrow \boxed{A}$

$10 \times 1 = \square \rightarrow \boxed{R}$

$5 \times 11 = \square \rightarrow \boxed{O}$

$8 \times 8 = \square \rightarrow \boxed{N}$

$8 \times 4 = \square \rightarrow \boxed{M}$

$11 \times 6 = \square \rightarrow \boxed{H}$

$5 \times 9 = \square \rightarrow \boxed{C}$

$2 \times 11 = \square \rightarrow \boxed{F}$

$10 \times 12 = \square \rightarrow \boxed{L}$

$4 \times 1 = \square \rightarrow \boxed{I}$

$11 \times 8 = \square \rightarrow \boxed{S}$

$11 \times 10 = \square \rightarrow \boxed{U}$

$3 \times 10 = \square \rightarrow \boxed{E}$

$5 \times 10 = \square \rightarrow \boxed{P}$

$9 \times 11 = \square \rightarrow \boxed{D}$

Scratch space:

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

The robot guards have to share fuel packs equally. Divide the total fuel packs by the number of guards to find the final secret!

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:

$9 \div 3 = \boxed{}$

$8 \div 1 = \boxed{}$

$132 \div 12 = \boxed{}$

$3 \div 3 = \boxed{}$

$8 \div 2 = \boxed{}$

$22 \div 11 = \boxed{}$

$20 \div 4 = \boxed{}$

$30 \div 3 = \boxed{}$

$60 \div 10 = \boxed{}$

$63 \div 7 = \boxed{}$

$21 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scanned with radar goggles, then blasted a freeze ray.
2. The villain shot a beam from the laser glove, then escaped through a portal gun warp.
3. The villain fired up jetpack wings to fly, then pulled the safe with a tractor beam.
4. The villain raised a glowing solar shield, then blasted a freeze ray.
5. The villain raised a glowing solar shield, then pulled the safe with a tractor beam.
6. The villain fired up jetpack wings to fly, then lifted the moon rock with a gravity wand.
7. The villain scanned with radar goggles, then lifted the moon rock with a gravity wand.
8. The villain scanned with radar goggles, then shrank the lunar rover with a shrink beam.
9. The villain activated gravity boots to float, then shrank the lunar rover with a shrink beam.
10. The villain shot a beam from the laser glove, then shrank the lunar rover with a shrink beam.
11. The villain raised a glowing solar shield, then shrank the lunar rover with a shrink beam.
12. The villain fired up jetpack wings to fly, then blasted a freeze ray.

Answer Key

The Great Moon Base Heist

Culprit: Nova Star

jetpack wings · freeze ray · right side · cosmic purple · tang orange juice

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DOES NOT USE A PORTAL GUN"

Round 2,863 to the nearest hundred = 2900 (T) · Round 91 to the nearest ten = 90 (N) · Round 231 to the nearest ten = 230 (H) · Round 2,276 to the nearest hundred = 2300 (I) · Round 30 to the nearest ten = 30 (D) · Round 4,972 to the nearest thousand = 5000 (E) · Round 1,269 to the nearest hundred = 1300 (U) · Round 1,669 to the nearest thousand = 2000 (R) · Round 202 to the nearest hundred = 200 (S) · Round 74 to the nearest ten = 70 (L) · Round 3,476 to the nearest thousand = 3000 (P) · Round 291 to the nearest ten = 290 (V) · Round 883 to the nearest hundred = 900 (A) · Round 9,129 to the nearest thousand = 9000 (G) · Round 1,670 to the nearest hundred = 1700 (O)

Clue 2 (Addition): "THE RIGHT SIDE ANTENNA WAS SEEN"

$3486 + 1945 = 5431$ (T) · $2408 + 1180 = 3588$ (G) · $5562 + 4327 = 9889$ (I) · $2588 + 1270 = 3858$ (W) · $2622 + 5926 = 8548$ (H) · $1403 + 3008 = 4411$ (S) · $2685 + 2707 = 5392$ (R) · $2392 + 1845 = 4237$ (D) · $2220 + 3663 = 5883$ (E) · $939 + 2014 = 2953$ (A) · $4902 + 3653 = 8555$ (N)

Clue 3 (Subtraction): "TANG ORANGE JUICE SCARED THE VILLAIN"

$2546 - 1404 = 1142$ (T) · $10978 - 4343 = 6635$ (J) · $3316 - 2098 = 1218$ (E) · $4577 - 2941 = 1636$ (R) · $6819 - 2795 = 4024$ (L) · $5645 - 803 = 4842$ (A) · $10544 - 3217 = 7327$ (C) · $7200 - 4549 = 2651$ (O) · $7192 - 2723 = 4469$ (D) · $8153 - 4669 = 3484$ (V) · $8729 - 2965 = 5764$ (I) · $13202 - 4472 = 8730$ (U) · $6247 - 249 = 5998$ (S) · $2293 - 632 = 1661$ (H) · $5907 - 7 = 5900$ (N) · $2353 - 1220 = 1133$ (G)

Clue 4 (Multiplication facts (1-12)): "WE FOUND A COSMIC PURPLE HAIR"

$6 \times 6 = 36$ (W) · $5 \times 3 = 15$ (A) · $10 \times 1 = 10$ (R) · $5 \times 11 = 55$ (O) · $8 \times 8 = 64$ (N) · $8 \times 4 = 32$ (M) · $11 \times 6 = 66$ (H) · $5 \times 9 = 45$ (C) · $2 \times 11 = 22$ (F) · $10 \times 12 = 120$ (L) · $4 \times 1 = 4$ (I) · $11 \times 8 = 88$ (S) · $11 \times 10 = 110$ (U) · $3 \times 10 = 30$ (E) · $5 \times 10 = 50$ (P) · $9 \times 11 = 99$ (D)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → Nova Star

$9 \div 3 = 3$ · $8 \div 1 = 8$ · $132 \div 12 = 11$ · $3 \div 3 = 1$ · $8 \div 2 = 4$ · $22 \div 11 = 2$ · $20 \div 4 = 5$ · $30 \div 3 = 10$ · $60 \div 10 = 6$ · $63 \div 7 = 9$ · $21 \div 3 = 7$