



The Cosmic Code

Grade 5 math · Multiplication, Rounding, Addition, Subtraction, Division · Reading level grades 5-6

Detective: _____ Date: _____

A rogue cosmic phantom has hijacked Nebula Station Seven! They locked the Chief Astronomer in the observation dome and tampered with the star maps. We must decode the ship's logs to find the culprit.

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 space bandit is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	THRUSTER TYPE	VISOR UPGRADE	GLOVE CONTROL	HELMET ANTENNA COLOR	STARSHIELD VULNERABILITY
Guion Bluford	plasma glider	gravity sensor	right handed controls	neon blue	cosmic dust
Pete Conrad	warp drive	laser scanner	left handed controls	laser green	magnetic storms
Guy Gardner	ion jetpack	thermal vision	right handed controls	neon blue	solar flares
Peggy Whitson	plasma glider	thermal vision	left handed controls	solar orange	magnetic storms
Kalpana Chawla	fusion booster	gamma radar	right handed controls	neon blue	magnetic storms
Fred Haise	ion jetpack	gravity sensor	right handed controls	neon blue	cosmic dust
John Glenn	warp drive	thermal vision	right handed controls	neon blue	magnetic storms
Mark Kelly	ion jetpack	thermal vision	right handed controls	neon blue	magnetic storms
Neil Armstrong	warp drive	gamma radar	right handed controls	solar orange	cosmic dust
Hal Jordan	warp drive	cosmic compass	right handed controls	laser green	cosmic dust
Yuri Gagarin	plasma glider	cosmic compass	right handed controls	solar orange	cosmic dust
Ellen Ochoa	ion jetpack	cosmic compass	left handed controls	neon blue	cosmic dust
Sally Ride	plasma glider	thermal vision	left handed controls	laser green	solar flares
Gene Cernan	fusion booster	laser scanner	right handed controls	neon blue	cosmic dust
Carol Danvers	warp drive	gravity sensor	right handed controls	solar orange	magnetic storms
Jim Lovell	solar sail	gamma radar	right handed controls	neon blue	cosmic dust
Peter Quill	fusion booster	cosmic compass	left handed controls	solar orange	solar flares
Chris Hadfield	warp drive	gamma radar	right handed controls	neon blue	cosmic dust
Mae Jemison	fusion booster	gravity sensor	right handed controls	solar orange	magnetic storms
Alan Shepard	plasma glider	thermal vision	left handed controls	laser green	cosmic dust
Scott Kelly	plasma glider	laser scanner	left handed controls	solar orange	cosmic dust

CLUE 1

Multiplication facts (1-12)

We found crates of stolen moonstone arranged in rows. By multiplying the rows of cargo, we unlocked the first encrypted datapad.

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

T																T	
6	25	27	11	20	96	96	84	20	110	7	100	27	144	110	100	6	
			T														
18	144	27	6	25	27	96	84	144	27	3	144	60	84	110	110	27	3

$6 \times 1 = \square \rightarrow \boxed{\text{T}}$

$6 \times 10 = \square \rightarrow \boxed{\text{C}}$

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

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

$7 \times 12 = \square \rightarrow \boxed{\text{A}}$

$3 \times 9 = \square \rightarrow \boxed{\text{E}}$

$1 \times 3 = \square \rightarrow \boxed{\text{R}}$

$10 \times 10 = \square \rightarrow \boxed{\text{O}}$

$8 \times 12 = \square \rightarrow \boxed{\text{L}}$

$7 \times 1 = \square \rightarrow \boxed{\text{D}}$

$11 \times 10 = \square \rightarrow \boxed{\text{N}}$

$11 \times 1 = \square \rightarrow \boxed{\text{V}}$

$3 \times 6 = \square \rightarrow \boxed{\text{U}}$

$10 \times 2 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

CLUE 2 Rounding

The long-range space radar only shows rounded coordinates. We rounded the signal to the nearest ten to pinpoint the thief's escape path.

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

T				T													
5000	50	170	290	5000	170	170	900	3700	2000	300	300	900	3700	1700	3000	430	290
										T						T	
1700	900	170	290	290	170	2900	500	2000	5000	50	170	900	3700	300	50	5000	

Round 5,153 to the nearest thousand → **T**

Round 301 to the nearest hundred → **G**

Round 51 to the nearest ten → **H**

Round 3,184 to the nearest thousand → **W**

Round 3,671 to the nearest hundred → **I**

Round 2,889 to the nearest hundred → **D**

Round 1,932 to the nearest thousand → **N**

Round 1,695 to the nearest hundred → **P**

Round 169 to the nearest ten → **E**

Round 881 to the nearest hundred → **R**

Round 544 to the nearest hundred → **O**

Round 286 to the nearest ten → **S**

Round 429 to the nearest ten → **A**

Scratch space:

CLUE 3 Addition

To open the security vault, we totaled up all the energy cell counts. Adding these numbers together gave us the access code.

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

C					C					C							
2489	9552	7368	2001	8461	2489	3392	2057	7368	7843	2489	4854	9552	3376	7368	2057	6795	
7843	6913	6180	8461	5227	2001	2824	8461	8254	7016	9552	9552	7368	7843	6180	5227		

$1647 + 842 = \square \rightarrow \text{C}$	$3960 + 2953 = \square \rightarrow \text{H}$	$2801 + 3994 = \square \rightarrow \text{P}$
$5738 + 2723 = \square \rightarrow \text{I}$	$1494 + 1882 = \square \rightarrow \text{G}$	$5002 + 2366 = \square \rightarrow \text{S}$
$1803 + 3424 = \square \rightarrow \text{R}$	$5491 + 2763 = \square \rightarrow \text{N}$	$1356 + 701 = \square \rightarrow \text{U}$
$3447 + 4396 = \square \rightarrow \text{T}$	$1469 + 1355 = \square \rightarrow \text{A}$	$5766 + 3786 = \square \rightarrow \text{O}$
$3083 + 3097 = \square \rightarrow \text{E}$	$2129 + 1263 = \square \rightarrow \text{D}$	$1336 + 665 = \square \rightarrow \text{M}$
$2405 + 2449 = \square \rightarrow \text{L}$	$3320 + 3696 = \square \rightarrow \text{B}$	

Scratch space:

CLUE 4
Subtraction

The ship's main computer showed a fuel leak. By finding the difference between the starting fuel and the remaining fuel, we bypassed the lockout.

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

A														A	
7059	4913	3701	5634	4913	3224	4074	1483	3701	8254	4074	5634	8675	8675	7059	3373

										A					A		
4074	3701	1646	2519	5634	4913	2519	3842	3701	3005	7059	3373	3842	3224	5634	7059	5896	3005

$7166 - 107 = \boxed{} \rightarrow \boxed{A}$

$7842 - 4000 = \boxed{} \rightarrow \boxed{H}$

$3739 - 1220 = \boxed{} \rightarrow \boxed{T}$

$8008 - 4784 = \boxed{} \rightarrow \boxed{B}$

$5083 - 3437 = \boxed{} \rightarrow \boxed{F}$

$8337 - 3424 = \boxed{} \rightarrow \boxed{N}$

$6731 - 1097 = \boxed{} \rightarrow \boxed{O}$

$4601 - 900 = \boxed{} \rightarrow \boxed{E}$

$9643 - 3747 = \boxed{} \rightarrow \boxed{R}$

$3126 - 121 = \boxed{} \rightarrow \boxed{D}$

$8628 - 4554 = \boxed{} \rightarrow \boxed{L}$

$12977 - 4302 = \boxed{} \rightarrow \boxed{W}$

$13120 - 4866 = \boxed{} \rightarrow \boxed{G}$

$4520 - 3037 = \boxed{} \rightarrow \boxed{U}$

$7373 - 4000 = \boxed{} \rightarrow \boxed{S}$

Scratch space:

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

We recovered a cache of space rations. By dividing the rations equally among our patrol squads, we calculated the final security key.

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:

$90 \div 9 = \boxed{}$

$16 \div 8 = \boxed{}$

$6 \div 1 = \boxed{}$

$90 \div 10 = \boxed{}$

$3 \div 1 = \boxed{}$

$32 \div 8 = \boxed{}$

$66 \div 6 = \boxed{}$

$55 \div 11 = \boxed{}$

$1 \div 1 = \boxed{}$

$80 \div 10 = \boxed{}$

$7 \div 1 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain vents the trash compactor, then hacks the security feeds.
2. The villain vents the trash compactor, then steals the crystal drive.
3. The villain reprograms the navigation droid, then locks the laboratory doors.
4. The villain disables the artificial gravity, then steals the crystal drive.
5. The villain overloads the docking bay, then swipes the star charts.
6. The villain drains the solar batteries, then steals the crystal drive.
7. The villain drains the solar batteries, then scrambles the radio frequency.
8. The villain overloads the docking bay, then hacks the security feeds.
9. The villain drains the solar batteries, then hacks the security feeds.
10. The villain overloads the docking bay, then scrambles the radio frequency.
11. The villain disables the artificial gravity, then swipes the star charts.
12. The villain reprograms the navigation droid, then scrambles the radio frequency.

Answer Key

The Cosmic Code

Culprit: Guion Bluford

plasma glider · gravity sensor · right handed controls · neon blue · cosmic dust

Trail: Start 21 → Clue 1 18 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE THE LASER SCANNER"

$6 \times 1 = 6$ (T) · $6 \times 10 = 60$ (C) · $5 \times 5 = 25$ (H) · $12 \times 12 = 144$ (S) · $7 \times 12 = 84$ (A) · $3 \times 9 = 27$ (E) · $1 \times 3 = 3$ (R) · $10 \times 10 = 100$ (O) · $8 \times 12 = 96$ (L) · $7 \times 1 = 7$ (D) · $11 \times 10 = 110$ (N) · $11 \times 1 = 11$ (V) · $3 \times 6 = 18$ (U) · $10 \times 2 = 20$ (I)

Clue 2 (Rounding): "THE STEERING GRIP WAS PRESSED ON THE RIGHT"

Round 5,153 to the nearest thousand = 5000 (T) · Round 301 to the nearest hundred = 300 (G) · Round 51 to the nearest ten = 50 (H) · Round 3,184 to the nearest thousand = 3000 (W) · Round 3,671 to the nearest hundred = 3700 (I) · Round 2,889 to the nearest hundred = 2900 (D) · Round 1,932 to the nearest thousand = 2000 (N) · Round 1,695 to the nearest hundred = 1700 (P) · Round 169 to the nearest ten = 170 (E) · Round 881 to the nearest hundred = 900 (R) · Round 544 to the nearest hundred = 500 (O) · Round 286 to the nearest ten = 290 (S) · Round 429 to the nearest ten = 430 (A)

Clue 3 (Addition): "COSMIC DUST CLOGS UP THEIR MAIN BOOSTER"

$1647 + 842 = 2489$ (C) · $3960 + 2953 = 6913$ (H) · $2801 + 3994 = 6795$ (P) · $5738 + 2723 = 8461$ (I) · $1494 + 1882 = 3376$ (G) · $5002 + 2366 = 7368$ (S) · $1803 + 3424 = 5227$ (R) · $5491 + 2763 = 8254$ (N) · $1356 + 701 = 2057$ (U) · $3447 + 4396 = 7843$ (T) · $1469 + 1355 = 2824$ (A) · $5766 + 3786 = 9552$ (O) · $3083 + 3097 = 6180$ (E) · $2129 + 1263 = 3392$ (D) · $1336 + 665 = 2001$ (M) · $2405 + 2449 = 4854$ (L) · $3320 + 3696 = 7016$ (B)

Clue 4 (Subtraction): "A NEON BLUE GLOW WAS LEFT ON THE DASHBOARD"

$7166 - 107 = 7059$ (A) · $7842 - 4000 = 3842$ (H) · $3739 - 1220 = 2519$ (T) · $8008 - 4784 = 3224$ (B) · $5083 - 3437 = 1646$ (F) · $8337 - 3424 = 4913$ (N) · $6731 - 1097 = 5634$ (O) · $4601 - 900 = 3701$ (E) · $9643 - 3747 = 5896$ (R) · $3126 - 121 = 3005$ (D) · $8628 - 4554 = 4074$ (L) · $12977 - 4302 = 8675$ (W) · $13120 - 4866 = 8254$ (G) · $4520 - 3037 = 1483$ (U) · $7373 - 4000 = 3373$ (S)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → Guion Bluford

$90 \div 9 = 10$ · $16 \div 8 = 2$ · $6 \div 1 = 6$ · $90 \div 10 = 9$ · $3 \div 1 = 3$ · $32 \div 8 = 4$ · $66 \div 6 = 11$ · $55 \div 11 = 5$ · $1 \div 1 = 1$ · $80 \div 10 = 8$ · $7 \div 1 = 7$