



The Mystery of the Missing Moon Crystal

Grade 3 math · Addition, Subtraction, Multiplication, Rounding, Division · Reading level grades 1-2

Detective: _____ Date: _____

Someone broke into the observatory dome! The glowing Moon Crystal is gone. The Cosmic Bandit left space footprints all over. We need to look for clues and save the day!

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	GLOVE HAND	HAIR COLOR	ENERGY SHIELD WEAKNESS
Valentina	Gravity Boots	Sonic Beacon	Right Handed	Bright Blue Hair	Shiny Magnets
Chris	Gravity Boots	Plasma Rope	Left Handed	Bright Blue Hair	Shiny Magnets
John	Laser Cutter	Sonic Beacon	Right Handed	Star Silver Hair	Shiny Magnets
Yi	Gravity Boots	Force Field Generator	Right Handed	Bright Blue Hair	Bright Flashlights
Helen	Jetpack Booster	Force Field Generator	Left Handed	Bright Blue Hair	Shiny Magnets
Guion	Jetpack Booster	Cosmic Ray Blaster	Right Handed	Star Silver Hair	Shiny Magnets
Neil	Gravity Boots	Sonic Beacon	Left Handed	Star Silver Hair	Shiny Magnets
Fred	Jetpack Booster	Force Field Generator	Right Handed	Star Silver Hair	Bright Flashlights
Jim	Jetpack Booster	Gravity Warp Remote	Left Handed	Star Silver Hair	Bright Flashlights
Sally	Gravity Boots	Cosmic Ray Blaster	Right Handed	Neon Red Hair	Shiny Magnets
Anousheh	Cloaking Shield	Gravity Warp Remote	Right Handed	Star Silver Hair	Shiny Magnets
Samantha	Jetpack Booster	Force Field Generator	Left Handed	Star Silver Hair	Shiny Magnets
Guy	Laser Cutter	Plasma Rope	Right Handed	Bright Blue Hair	Shiny Magnets
Scott	Laser Cutter	Force Field Generator	Right Handed	Star Silver Hair	Shiny Magnets
Yuri	Jetpack Booster	Sonic Beacon	Right Handed	Neon Red Hair	Bright Flashlights
Mae	Robot Companion	Force Field Generator	Right Handed	Star Silver Hair	Shiny Magnets
Elena	Cloaking Shield	Gravity Warp Remote	Left Handed	Star Silver Hair	Cold Freeze Rays
Buzz	Gravity Boots	Sonic Beacon	Left Handed	Star Silver Hair	Bright Flashlights
Alan	Gravity Boots	Plasma Rope	Right Handed	Neon Red Hair	Shiny Magnets
Peggy	Robot Companion	Force Field Generator	Left Handed	Bright Blue Hair	Cold Freeze Rays
Tim	Robot Companion	Gravity Warp Remote	Left Handed	Bright Blue Hair	Shiny Magnets

CLUE 1 Addition

We need to count our space suits. Let us add the clean suits and the dirty suits to find the total.

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

T			T											T				
813	865	841	813	865	652	841	910	683	570	841	465	677	570	813	455	465	841	320

					T										T	
632	432	320	431	652	813	779	382	320	432	376	432	841	308	570	813	841

$404 + 409 = \square \rightarrow \text{**T**}$

$143 + 239 = \square \rightarrow \text{**W**}$

$239 + 413 = \square \rightarrow \text{**I**}$

$174 + 257 = \square \rightarrow \text{**V**}$

$357 + 320 = \square \rightarrow \text{**N**}$

$131 + 301 = \square \rightarrow \text{**R**}$

$297 + 168 = \square \rightarrow \text{**S**}$

$549 + 292 = \square \rightarrow \text{**E**}$

$393 + 386 = \square \rightarrow \text{**Y**}$

$370 + 313 = \square \rightarrow \text{**D**}$

$185 + 123 = \square \rightarrow \text{**M**}$

$357 + 553 = \square \rightarrow \text{**F**}$

$286 + 169 = \square \rightarrow \text{**U**}$

$226 + 406 = \square \rightarrow \text{**G**}$

$253 + 123 = \square \rightarrow \text{**P**}$

$200 + 370 = \square \rightarrow \text{**O**}$

$106 + 214 = \square \rightarrow \text{**A**}$

$341 + 524 = \square \rightarrow \text{**H**}$

Scratch space:

CLUE 2 Subtraction

Oh no! Some moon rocks are missing from the lab bag. Subtract the rocks left from the start amount to see how many are gone.

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

T 660	108	683	594	602	732	683	228	228	683	753	T 660	108	683	861	163	T 660	T 660	882	669
778	806	T 660	108	T 660	108	683	806	732	732	806	595	108	T 660	108	142	669	753		

$1013 - 353 = \square \rightarrow \boxed{\text{T}}$

$774 - 105 = \square \rightarrow \boxed{\text{N}}$

$900 - 168 = \square \rightarrow \boxed{\text{R}}$

$201 - 38 = \square \rightarrow \boxed{\text{U}}$

$815 - 62 = \square \rightarrow \boxed{\text{D}}$

$963 - 102 = \square \rightarrow \boxed{\text{B}}$

$299 - 71 = \square \rightarrow \boxed{\text{S}}$

$164 - 56 = \square \rightarrow \boxed{\text{H}}$

$1035 - 352 = \square \rightarrow \boxed{\text{E}}$

$808 - 30 = \square \rightarrow \boxed{\text{W}}$

$745 - 150 = \square \rightarrow \boxed{\text{G}}$

$635 - 41 = \square \rightarrow \boxed{\text{Y}}$

$1194 - 312 = \square \rightarrow \boxed{\text{O}}$

$944 - 342 = \square \rightarrow \boxed{\text{P}}$

$914 - 108 = \square \rightarrow \boxed{\text{I}}$

$531 - 389 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 3

Multiplication facts (1-12)

Let us check the rocket fuel packs. They are in equal rows. Multiply the rows to find the total fuel.

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

T																
22	72	60	33	132	30	30	84	132	20	8	84	20	84	49	84	21
														T		
88	8	96	5	120	72	132	20	21	5	84	11	20	60	22	120	

$2 \times 11 = \square \rightarrow \boxed{\text{T}}$

$11 \times 8 = \square \rightarrow \boxed{\text{F}}$

$1 \times 5 = \square \rightarrow \boxed{\text{M}}$

$11 \times 12 = \square \rightarrow \boxed{\text{I}}$

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

$1 \times 8 = \square \rightarrow \boxed{\text{R}}$

$3 \times 10 = \square \rightarrow \boxed{\text{L}}$

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

$12 \times 5 = \square \rightarrow \boxed{\text{E}}$

$10 \times 12 = \square \rightarrow \boxed{\text{S}}$

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

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

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

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

$7 \times 7 = \square \rightarrow \boxed{\text{W}}$

$3 \times 7 = \square \rightarrow \boxed{\text{Y}}$

Scratch space:

CLUE 4 Rounding

Our star scanner is a bit old. It rounds the distance of the escaping thief to the nearest ten.

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

T									T							
500	700	200	20	300	20	7000	200	4000	500	700	6000	20	20	500	6000	30
20	60	900	2000	200	30	700	6000	60	30							

Round 474 to the nearest hundred → **T**

Round 295 to the nearest hundred → **U**

Round 2,318 to the nearest thousand → **V**

Round 5,649 to the nearest thousand → **A**

Round 3,965 to the nearest thousand → **C**

Round 17 to the nearest ten → **S**

Round 893 to the nearest hundred → **L**

Round 62 to the nearest ten → **I**

Round 7,228 to the nearest thousand → **P**

Round 32 to the nearest ten → **R**

Round 723 to the nearest hundred → **H**

Round 219 to the nearest hundred → **E**

Scratch space:

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

We found a box of space snacks. We must share them equally among our crew to stay strong.

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:

$48 \div 4 = \boxed{}$

$50 \div 5 = \boxed{}$

$48 \div 6 = \boxed{}$

$12 \div 12 = \boxed{}$

$77 \div 11 = \boxed{}$

$18 \div 2 = \boxed{}$

$12 \div 6 = \boxed{}$

$121 \div 11 = \boxed{}$

$15 \div 5 = \boxed{}$

$24 \div 6 = \boxed{}$

$50 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain floats through the airlock, then hops into a tiny escape pod.
2. The villain disables the camera system, then climbs out the docking bay window.
3. The villain disables the camera system, then zips away on a space scooter.
4. The villain hacks the main console, then hops into a tiny escape pod.
5. The villain deactivates the gravity lock, then climbs out the docking bay window.
6. The villain deactivates the gravity lock, then hides inside a hollow asteroid.
7. The villain hacks the main console, then blasts off in a silver rocket.
8. The villain deactivates the gravity lock, then hops into a tiny escape pod.
9. The villain sneaks past the security drone, then blasts off in a silver rocket.
10. The villain disables the camera system, then hops into a tiny escape pod.
11. The villain sneaks past the security drone, then hides inside a hollow asteroid.
12. The villain floats through the airlock, then zips away on a space scooter.

Answer Key

The Mystery of the Missing Moon Crystal

Culprit: John

Laser Cutter · Sonic Beacon · Right Handed · Star Silver Hair · Shiny Magnets

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT USE A GRAVITY WARP REMOTE"

$404 + 409 = 813$ (T) · $143 + 239 = 382$ (W) · $239 + 413 = 652$ (I) · $174 + 257 = 431$ (V) · $357 + 320 = 677$ (N) · $131 + 301 = 432$ (R) · $297 + 168 = 465$ (S) · $549 + 292 = 841$ (E) · $393 + 386 = 779$ (Y) · $370 + 313 = 683$ (D) · $185 + 123 = 308$ (M) · $357 + 553 = 910$ (F) · $286 + 169 = 455$ (U) · $226 + 406 = 632$ (G) · $253 + 123 = 376$ (P) · $200 + 370 = 570$ (O) · $106 + 214 = 320$ (A) · $341 + 524 = 865$ (H)

Clue 2 (Subtraction): "THEY PRESSED THE BUTTON WITH THEIR RIGHT HAND"

$1013 - 353 = 660$ (T) · $774 - 105 = 669$ (N) · $900 - 168 = 732$ (R) · $201 - 38 = 163$ (U) · $815 - 62 = 753$ (D) · $963 - 102 = 861$ (B) · $299 - 71 = 228$ (S) · $164 - 56 = 108$ (H) · $1035 - 352 = 683$ (E) · $808 - 30 = 778$ (W) · $745 - 150 = 595$ (G) · $635 - 41 = 594$ (Y) · $1194 - 312 = 882$ (O) · $944 - 342 = 602$ (P) · $914 - 108 = 806$ (I) · $531 - 389 = 142$ (A)

Clue 3 (Multiplication facts (1-12)): "THE VILLAIN RAN AWAY FROM SHINY MAGNETS"

$2 \times 11 = 22$ (T) · $11 \times 8 = 88$ (F) · $1 \times 5 = 5$ (M) · $11 \times 12 = 132$ (I) · $11 \times 1 = 11$ (G) · $1 \times 8 = 8$ (R) · $3 \times 10 = 30$ (L) · $7 \times 12 = 84$ (A) · $12 \times 5 = 60$ (E) · $10 \times 12 = 120$ (S) · $12 \times 6 = 72$ (H) · $2 \times 10 = 20$ (N) · $3 \times 11 = 33$ (V) · $8 \times 12 = 96$ (O) · $7 \times 7 = 49$ (W) · $3 \times 7 = 21$ (Y)

Clue 4 (Rounding): "THE SUSPECT HAS STAR SILVER HAIR"

Round 474 to the nearest hundred = 500 (T) · Round 295 to the nearest hundred = 300 (U) · Round 2,318 to the nearest thousand = 2000 (V) · Round 5,649 to the nearest thousand = 6000 (A) · Round 3,965 to the nearest thousand = 4000 (C) · Round 17 to the nearest ten = 20 (S) · Round 893 to the nearest hundred = 900 (L) · Round 62 to the nearest ten = 60 (I) · Round 7,228 to the nearest thousand = 7000 (P) · Round 32 to the nearest ten = 30 (R) · Round 723 to the nearest hundred = 700 (H) · Round 219 to the nearest hundred = 200 (E)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → John

$48 \div 4 = 12$ · $50 \div 5 = 10$ · $48 \div 6 = 8$ · $12 \div 12 = 1$ · $77 \div 11 = 7$ · $18 \div 2 = 9$ · $12 \div 6 = 2$ · $121 \div 11 = 11$ · $15 \div 5 = 3$ · $24 \div 6 = 4$ · $50 \div 10 = 5$