



The Cosmic Block-Ball Mystery

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

Detective: _____ Date: _____

The legendary Golden Championship Block-Ball has been stolen right out of the trophy room at the Nebula Arena! A sneaky space kitty bypassed the gravity laser grid. Now the entire space league is in jeopardy!

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 Block-Snatcher is _____

Possible suspects

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

NAME	SUPER MOVE	SPACE GEAR	SHOOTING HAND	SPACE HELMET COLOR	DISTRACTION
Alex Morgan	Gravity Dunk	Pixel Glove	Right Handed	Neon Green	Yarn Balls
Serena Whisker	Laser Block	Jetpack Jersey	Right Handed	Bright Orange	Fish Treats
Socks Rocket	Pixel Dash	Gravity Boots	Right Handed	Bright Orange	Yarn Balls
Michael Clawdan	Gravity Dunk	Glow Goggles	Right Handed	Neon Green	Fish Treats
Captain Claw	Laser Block	Pixel Glove	Left Handed	Neon Green	Catnip Toys
Lionel Mewsi	Gravity Dunk	Glow Goggles	Left Handed	Neon Green	Catnip Toys
Steph Furry	Laser Block	Glow Goggles	Left Handed	Neon Green	Fish Treats
Squeaky Star	Gravity Dunk	Gravity Boots	Left Handed	Neon Green	Catnip Toys
Steve Block	Rocket Kick	Laser Cleats	Left Handed	Bright Orange	Catnip Toys
Pixel Purr	Laser Block	Pixel Glove	Right Handed	Neon Green	Fish Treats
Creeper Cat	Pixel Dash	Glow Goggles	Left Handed	Cosmic Purple	Fish Treats
Cosmo Mew	Rocket Kick	Gravity Boots	Left Handed	Neon Green	Fish Treats
Felix Float	Laser Block	Glow Goggles	Left Handed	Neon Green	Catnip Toys
LeBron Paw	Laser Block	Glow Goggles	Right Handed	Neon Green	Catnip Toys
Gizmo Orbit	Teleport Pass	Jetpack Jersey	Left Handed	Neon Green	Catnip Toys
Ziggy Zap	Pixel Dash	Glow Goggles	Right Handed	Cosmic Purple	Fish Treats
Mittens Block	Gravity Dunk	Laser Cleats	Right Handed	Neon Green	Catnip Toys
Astro Whiskers	Rocket Kick	Laser Cleats	Right Handed	Bright Orange	Catnip Toys
Nebula Ned	Gravity Dunk	Jetpack Jersey	Right Handed	Cosmic Purple	Yarn Balls
Boots McSpace	Rocket Kick	Jetpack Jersey	Left Handed	Neon Green	Yarn Balls
Ender Kitty	Pixel Dash	Glow Goggles	Right Handed	Bright Orange	Yarn Balls

CLUE 1 Rounding

The radar screen only shows rounded rocket coordinates. Estimate the numbers to lock onto the thief's escape ship!

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

T																T
20	290	7000	430	1700	900	900	2900	1700	2000	370	130	7000	200	2000	130	20
2300	7000	2900	4300	2900	3700	1700	500	7000	900	5000	900	130	430	7000		

Round 18 to the nearest ten → **T**

Round 3,688 to the nearest hundred → **P**

Round 428 to the nearest ten → **V**

Round 543 to the nearest hundred → **X**

Round 6,620 to the nearest thousand → **E**

Round 4,294 to the nearest hundred → **R**

Round 875 to the nearest hundred → **L**

Round 1,734 to the nearest hundred → **I**

Round 172 to the nearest hundred → **S**

Round 2,926 to the nearest hundred → **A**

Round 4,884 to the nearest thousand → **G**

Round 2,337 to the nearest hundred → **W**

Round 291 to the nearest ten → **H**

Round 2,238 to the nearest thousand → **N**

Round 371 to the nearest ten → **D**

Round 132 to the nearest ten → **O**

Scratch space:

CLUE 2 Addition

We need to add up all the missing space soccer balls in the locker room. Count them to find a clue!

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

T														T				
4452	6536	5938	7648	8697	4159	4159	6548	8697	4475	6595	3827	5938	3827	4452	6536	5938	8697	9569

			T					T					T
4159	5938	4572	4452	6536	6548	4475	7637	4452	5404	3827	6536	5404	4452

$2462 + 1990 = \boxed{} \rightarrow \boxed{\text{T}}$

$3829 + 5740 = \boxed{} \rightarrow \boxed{\text{R}}$

$2095 + 2064 = \boxed{} \rightarrow \boxed{\text{L}}$

$2355 + 1472 = \boxed{} \rightarrow \boxed{\text{S}}$

$2320 + 5317 = \boxed{} \rightarrow \boxed{\text{D}}$

$2165 + 4430 = \boxed{} \rightarrow \boxed{\text{U}}$

$2548 + 2856 = \boxed{} \rightarrow \boxed{\text{O}}$

$2424 + 3514 = \boxed{} \rightarrow \boxed{\text{E}}$

$5322 + 2326 = \boxed{} \rightarrow \boxed{\text{V}}$

$4574 + 1962 = \boxed{} \rightarrow \boxed{\text{H}}$

$2442 + 2130 = \boxed{} \rightarrow \boxed{\text{F}}$

$1467 + 3008 = \boxed{} \rightarrow \boxed{\text{N}}$

$2830 + 5867 = \boxed{} \rightarrow \boxed{\text{I}}$

$4078 + 2470 = \boxed{} \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 3

Subtraction

The villain dropped some pixel blocks on the run. Subtract the broken blocks from the total to clear our path.

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

T					T				T				T						
7045	5476	5714	3041	4651	7045	6002	2318	5686	7045	8136	5554	1236	7045	8597	2318	5686	5686	5714	2682
		T																	
6870	5686	7045	5476	5714	3995	2318	2835	2835	4651	2318	6002								

$$8967 - 1922 = \square \rightarrow \boxed{\text{T}}$$

$$9628 - 4074 = \square \rightarrow \boxed{\text{Y}}$$

$$4084 - 1402 = \square \rightarrow \boxed{\text{D}}$$

$$7910 - 3915 = \square \rightarrow \boxed{\text{V}}$$

$$4027 - 986 = \square \rightarrow \boxed{\text{C}}$$

$$5749 - 4513 = \square \rightarrow \boxed{\text{S}}$$

$$11223 - 4353 = \square \rightarrow \boxed{\text{U}}$$

$$7391 - 1915 = \square \rightarrow \boxed{\text{H}}$$

$$3587 - 1269 = \square \rightarrow \boxed{\text{I}}$$

$$11765 - 3168 = \square \rightarrow \boxed{\text{R}}$$

$$5761 - 2926 = \square \rightarrow \boxed{\text{L}}$$

$$8573 - 3922 = \square \rightarrow \boxed{\text{A}}$$

$$6892 - 890 = \square \rightarrow \boxed{\text{N}}$$

$$6022 - 336 = \square \rightarrow \boxed{\text{P}}$$

$$12936 - 4800 = \square \rightarrow \boxed{\text{O}}$$

$$9065 - 3351 = \square \rightarrow \boxed{\text{E}}$$

Scratch space:

Multiplication facts (1-12)

The star cruisers are parked in equal rows. Multiply the rows to find out how many ships are left!

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

The diagram illustrates a sequence of numbers with specific conditions marked by 'N' in orange boxes. The top row contains 16 boxes, and the bottom row contains 12 boxes. The values and conditions are as follows:

Row	Box Index	Value	Condition (N)
Top Row	1	42	Yes
	2	21	No
	3	77	No
	4	42	Yes
	5	8	No
	6	56	No
	7	21	No
	8	21	No
	9	42	Yes
	10	27	No
	11	21	No
	12	55	No
	13	84	No
	14	21	No
	15	3	No
	Bottom Row	1	63
2		27	No
3		120	No
4		56	No
5		64	No
6		63	No
7		5	No
8		21	No
9		56	No
10		21	No
11		30	No
12		77	No

Additional values from the diagram:

- Values 8, 55, 120, 63, 63 are shown in a separate group of five boxes.
- Values 30, 77, 80, 42, 64 are shown in a separate group of five boxes, where the box with value 42 is marked with 'N'.

$6 \times 7 = \boxed{} \rightarrow \boxed{\text{N}}$

$9 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{S}}$

$8 \times 8 = \boxed{} \rightarrow \boxed{\text{D}}$

$1 \times 5 = \boxed{} \rightarrow \boxed{\text{W}}$

$4 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$10 \times 8 = \boxed{} \rightarrow \boxed{\text{U}}$$

$7 \times 3 = \boxed{} \rightarrow \boxed{\text{E}}$

$$11 \times 5 = \boxed{} \rightarrow \boxed{\text{L}}$$

$7 \times 12 = \boxed{} \rightarrow \boxed{\mathbf{M}}$

$3 \times 10 = \boxed{} \rightarrow \boxed{\text{F}}$

$7 \times 11 = \square \rightarrow \boxed{0}$

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

$1 \times 3 = \square \rightarrow \boxed{\mathbf{T}}$

$8 \times 7 = \square \rightarrow \boxed{\mathbf{R}}$

$12 \times 10 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

Scratch space:

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

Let's share these tasty space cat treats equally among our star players. Divide them up to get 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:

$7 \div 1 = \boxed{}$

$12 \div 3 = \boxed{}$

$96 \div 12 = \boxed{}$

$22 \div 2 = \boxed{}$

$70 \div 7 = \boxed{}$

$45 \div 5 = \boxed{}$

$10 \div 5 = \boxed{}$

$36 \div 12 = \boxed{}$

$42 \div 7 = \boxed{}$

$50 \div 10 = \boxed{}$

$24 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain warped across the court, then hopped onto a flying star cruiser.
2. The villain zapped the stadium defense shield, then zoomed off wearing rocket sneakers.
3. The villain dunked through a black hole portal, then teleported through a warp gate.
4. The villain zapped the stadium defense shield, then scrambled the arena scoreboard.
5. The villain dunked through a black hole portal, then floated away into deep orbit.
6. The villain kicked a flaming soccer ball, then hopped onto a flying star cruiser.
7. The villain activated the anti-gravity engine, then floated away into deep orbit.
8. The villain activated the anti-gravity engine, then scrambled the arena scoreboard.
9. The villain dunked through a black hole portal, then zoomed off wearing rocket sneakers.
10. The villain zapped the stadium defense shield, then floated away into deep orbit.
11. The villain activated the anti-gravity engine, then teleported through a warp gate.
12. The villain dunked through a black hole portal, then scrambled the arena scoreboard.

Answer Key

The Cosmic Block-Ball Mystery

Culprit: Gizmo Orbit

Teleport Pass · Jetpack Jersey · Left Handed · Neon Green · Catnip Toys

Trail: Start 21 → Clue 1 18 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DOES NOT WEAR A PIXEL GLOVE"

Round 18 to the nearest ten = 20 (T) · Round 3,688 to the nearest hundred = 3700 (P) · Round 428 to the nearest ten = 430 (V) · Round 543 to the nearest hundred = 500 (X) · Round 6,620 to the nearest thousand = 7000 (E) · Round 4,294 to the nearest hundred = 4300 (R) · Round 875 to the nearest hundred = 900 (L) · Round 1,734 to the nearest hundred = 1700 (I) · Round 172 to the nearest hundred = 200 (S) · Round 2,926 to the nearest hundred = 2900 (A) · Round 4,884 to the nearest thousand = 5000 (G) · Round 2,337 to the nearest hundred = 2300 (W) · Round 291 to the nearest ten = 290 (H) · Round 2,238 to the nearest thousand = 2000 (N) · Round 371 to the nearest ten = 370 (D) · Round 132 to the nearest ten = 130 (O)

Clue 2 (Addition): "THE VILLAIN USES THEIR LEFT HAND TO SHOOT"

$2462 + 1990 = 4452$ (T) · $3829 + 5740 = 9569$ (R) · $2095 + 2064 = 4159$ (L) · $2355 + 1472 = 3827$ (S) · $2320 + 5317 = 7637$ (D) · $2165 + 4430 = 6595$ (U) · $2548 + 2856 = 5404$ (O) · $2424 + 3514 = 5938$ (E) · $5322 + 2326 = 7648$ (V) · $4574 + 1962 = 6536$ (H) · $2442 + 2130 = 4572$ (F) · $1467 + 3008 = 4475$ (N) · $2830 + 5867 = 8697$ (I) · $4078 + 2470 = 6548$ (A)

Clue 3 (Subtraction): "THE CATNIP TOYS TRIPPED UP THE VILLAIN"

$8967 - 1922 = 7045$ (T) · $9628 - 4074 = 5554$ (Y) · $4084 - 1402 = 2682$ (D) · $7910 - 3915 = 3995$ (V) · $4027 - 986 = 3041$ (C) · $5749 - 4513 = 1236$ (S) · $11223 - 4353 = 6870$ (U) · $7391 - 1915 = 5476$ (H) · $3587 - 1269 = 2318$ (I) · $11765 - 3168 = 8597$ (R) · $5761 - 2926 = 2835$ (L) · $8573 - 3922 = 4651$ (A) · $6892 - 890 = 6002$ (N) · $6022 - 336 = 5686$ (P) · $12936 - 4800 = 8136$ (O) · $9065 - 3351 = 5714$ (E)

Clue 4 (Multiplication facts (1-12)): "NEON GREEN HELMET GLASS SHARDS WERE FOUND"

$6 \times 7 = 42$ (N) · $9 \times 7 = 63$ (S) · $8 \times 8 = 64$ (D) · $1 \times 5 = 5$ (W) · $4 \times 2 = 8$ (G) · $10 \times 8 = 80$ (U) · $7 \times 3 = 21$ (E) · $11 \times 5 = 55$ (L) · $7 \times 12 = 84$ (M) · $3 \times 10 = 30$ (F) · $7 \times 11 = 77$ (O) · $3 \times 9 = 27$ (H) · $1 \times 3 = 3$ (T) · $8 \times 7 = 56$ (R) · $12 \times 10 = 120$ (A)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Gizmo Orbit

$7 \div 1 = 7$ · $12 \div 3 = 4$ · $96 \div 12 = 8$ · $22 \div 2 = 11$ · $70 \div 7 = 10$ · $45 \div 5 = 9$ · $10 \div 5 = 2$ · $36 \div 12 = 3$ · $42 \div 7 = 6$ · $50 \div 10 = 5$ · $24 \div 2 = 12$