



The Orbit Arena Glitch

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

Detective: _____ **Date:** _____

The Interstellar Blocky Soccer Cup is in trouble! A rogue Glitch Player has hacked the stadium, stolen the golden championship trophy, and trapped Referee Gizmo in a redstone cage. We need to solve the math puzzles, find the clues, and stop the glitch before the final whistle!

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 Glitch Player is _____

Possible suspects

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

NAME	MAIN SOCCER SKILL	SPECIAL ROBOT GEAR	KICKING FOOT	HELMET MOHAWK	ROBOT WEAKNESS
Ney-tron Star	Gravity Jump	Solar Charge	Right footed kicker	Neon Green Mohawk	Rust spray
Jude Beam-ingham	Rocket Kick	Jetpack Boost	Left footed kicker	Bright Orange Mohawk	Magnet traps
Marcus Rush-bot	Block Wall	Redstone Spark	Left footed kicker	Bright Orange Mohawk	Rust spray
Sam Kerr-circuit	Turbo Tackle	Redstone Spark	Right footed kicker	Electric Blue Mohawk	Magnet traps
Bruno Frame-rate	Turbo Tackle	Redstone Spark	Left footed kicker	Electric Blue Mohawk	Water blocks
Antoine Glitch-man	Turbo Tackle	Pixel Shield	Left footed kicker	Electric Blue Mohawk	Water blocks
Alex Morgan-tron	Block Wall	Jetpack Boost	Right footed kicker	Bright Orange Mohawk	Magnet traps
Harry Kinetic	Gravity Jump	Portal Warp	Left footed kicker	Electric Blue Mohawk	Water blocks
Luis Solar-ez	Turbo Tackle	Redstone Spark	Right footed kicker	Bright Orange Mohawk	Rust spray
Megan Rap-node	Gravity Jump	Solar Charge	Right footed kicker	Neon Green Mohawk	Magnet traps
Karim Bin-ary	Gravity Jump	Redstone Spark	Right footed kicker	Electric Blue Mohawk	Rust spray
Robert Lazer-ski	Gravity Jump	Pixel Shield	Left footed kicker	Neon Green Mohawk	Rust spray
Son Heung-bot	Gravity Jump	Pixel Shield	Left footed kicker	Neon Green Mohawk	Water blocks
Marta Machine	Rocket Kick	Solar Charge	Right footed kicker	Electric Blue Mohawk	Water blocks
Cristiano Robo-naldo	Laser Pass	Solar Charge	Left footed kicker	Bright Orange Mohawk	Magnet traps
Christian Pixel-ic	Turbo Tackle	Solar Charge	Left footed kicker	Electric Blue Mohawk	Water blocks
Virgil Van Block	Block Wall	Solar Charge	Left footed kicker	Electric Blue Mohawk	Water blocks
Mo Solar-charger	Rocket Kick	Redstone Spark	Right footed kicker	Electric Blue Mohawk	Rust spray
Kevin De Brain	Turbo Tackle	Portal Warp	Right footed kicker	Electric Blue Mohawk	Magnet traps
Lionel Messi-bot	Gravity Jump	Redstone Spark	Left footed kicker	Electric Blue Mohawk	Magnet traps
Kylian Block-pay	Turbo Tackle	Portal Warp	Left footed kicker	Neon Green Mohawk	Magnet traps

CLUE 1 Addition

Referee Gizmo tallies up the extra pixel soccer balls delivered to the practice field. The sum reveals a secret code on the villain.

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

T						T												
873	640	336	390	421	780	873	781	640	500	421	240	710	336	294	465	275	336	542
		T							T									
973	275	873	841	542	336	500	275	294	873	240	421	377	240	294	500			

$542 + 331 = \square \rightarrow$ T	$333 + 209 = \square \rightarrow$ S	$259 + 521 = \square \rightarrow$ I
$153 + 87 = \square \rightarrow$ A	$602 + 371 = \square \rightarrow$ N	$426 + 214 = \square \rightarrow$ H
$225 + 111 = \square \rightarrow$ E	$522 + 319 = \square \rightarrow$ U	$176 + 214 = \square \rightarrow$ G
$248 + 173 = \square \rightarrow$ L	$112 + 163 = \square \rightarrow$ O	$256 + 209 = \square \rightarrow$ D
$345 + 365 = \square \rightarrow$ Y	$201 + 93 = \square \rightarrow$ R	$254 + 246 = \square \rightarrow$ P
$521 + 260 = \square \rightarrow$ C	$161 + 216 = \square \rightarrow$ W	

Scratch space:

CLUE 2 Subtraction

Coach Block counts the energy cells left in the locker room after the team took their gear. The difference shows the culprit's footedness.

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

T						T				T					T			
885	562	140	249	140	162	885	162	471	471	885	691	756	707	624	885	891	120	531
584	351	267	562	393	140	140	691	140	756									

$1156 - 271 = \square \rightarrow \boxed{\text{T}}$	$655 - 31 = \square \rightarrow \boxed{\text{N}}$	$643 - 81 = \square \rightarrow \boxed{\text{H}}$
$327 - 187 = \square \rightarrow \boxed{\text{E}}$	$325 - 58 = \square \rightarrow \boxed{\text{C}}$	$695 - 4 = \square \rightarrow \boxed{\text{P}}$
$716 - 185 = \square \rightarrow \boxed{\text{S}}$	$950 - 243 = \square \rightarrow \boxed{\text{I}}$	$200 - 80 = \square \rightarrow \boxed{\text{A}}$
$1194 - 303 = \square \rightarrow \boxed{\text{W}}$	$812 - 341 = \square \rightarrow \boxed{\text{O}}$	$500 - 107 = \square \rightarrow \boxed{\text{D}}$
$909 - 325 = \square \rightarrow \boxed{\text{M}}$	$258 - 96 = \square \rightarrow \boxed{\text{F}}$	$598 - 349 = \square \rightarrow \boxed{\text{L}}$
$1021 - 265 = \square \rightarrow \boxed{\text{R}}$	$732 - 381 = \square \rightarrow \boxed{\text{U}}$	

Scratch space:

CLUE 3

Bar model word problems

We map out the weight of the metal cleats compared to the normal boots using a block model. The bar model reveals the villain's weakness.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with W O C K S .

49 9 60 28 32 34 27

Coach Block has 7 times as many rocket boots as a teammate. The teammate has 7 rocket boots. How many rocket boots does Coach Block have?

draw a bar model

Answer: → W

Coach Block shares 189 pixel soccer balls equally among 7 teams. How many pixel soccer balls does each team get?

draw a bar model

Answer: → L

There were 45 rocket boots in all. 36 rocket boots were used. How many rocket boots are left?

draw a bar model

Answer: → A

The red team has 52 space jerseys and the blue team has 20 space jerseys. How many more space jerseys does the red team have?

draw a bar model

Answer: → R

Coach Block shares 238 space jerseys equally among 7 teams. How many space jerseys does each team get?

draw a bar model

Answer: → B

Coach Block has 4 times as many space jerseys as a teammate. The teammate has 7 space jerseys. How many space jerseys does Coach Block have?

draw a bar model

Answer: → E

Coach Block has 6 times as many space jerseys as a teammate. The teammate has 10 space jerseys. How many space jerseys does Coach Block have?

draw a bar model

Answer: → T

CLUE 4
Multiplication facts (1-12)

The security droids check rows of battery crates in the cargo bay. Multiplying the crates gives us the pixel color of the suspect's mohawk.

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

B																			
55	72	3	8	36	99	49	100	144	28	4	88	12	8	72	54	144	8	108	8
16	99	3	80	14															

$5 \times 11 = \square \rightarrow \text{B}$	$9 \times 4 = \square \rightarrow \text{M}$	$3 \times 1 = \square \rightarrow \text{U}$	
$12 \times 6 = \square \rightarrow \text{L}$	$2 \times 8 = \square \rightarrow \text{F}$	$7 \times 7 = \square \rightarrow \text{H}$	
$9 \times 12 = \square \rightarrow \text{R}$	$6 \times 9 = \square \rightarrow \text{S}$	$10 \times 10 = \square \rightarrow \text{A}$	
$8 \times 10 = \square \rightarrow \text{N}$	$8 \times 1 = \square \rightarrow \text{E}$	$4 \times 7 = \square \rightarrow \text{K}$	$2 \times 2 = \square \rightarrow \text{P}$
$4 \times 3 = \square \rightarrow \text{X}$	$12 \times 12 = \square \rightarrow \text{W}$	$7 \times 2 = \square \rightarrow \text{D}$	
$11 \times 8 = \square \rightarrow \text{I}$	$11 \times 9 = \square \rightarrow \text{O}$		

Scratch space:

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

We divide the remaining trophy star-badges equally among the winning robots. The leftover amount points to 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:

$10 \div 5 = \boxed{}$

$18 \div 3 = \boxed{}$

$11 \div 1 = \boxed{}$

$6 \div 2 = \boxed{}$

$72 \div 6 = \boxed{}$

$1 \div 1 = \boxed{}$

$20 \div 4 = \boxed{}$

$48 \div 6 = \boxed{}$

$27 \div 3 = \boxed{}$

$30 \div 3 = \boxed{}$

$28 \div 7 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain activated a turbo tackle, then zoomed away using a jetpack boost.
2. The villain activated a turbo tackle, then powered up with a solar charge.
3. The villain activated a turbo tackle, then teleported through a portal warp.
4. The villain made a huge gravity jump, then zapped the stadium with a redstone spark.
5. The villain unleashed a rocket kick, then teleported through a portal warp.
6. The villain built a block wall, then powered up with a solar charge.
7. The villain activated a turbo tackle, then blocked the goal with a pixel shield.
8. The villain unleashed a rocket kick, then zapped the stadium with a redstone spark.
9. The villain fired a laser pass, then zapped the stadium with a redstone spark.
10. The villain built a block wall, then teleported through a portal warp.
11. The villain activated a turbo tackle, then zapped the stadium with a redstone spark.
12. The villain made a huge gravity jump, then zoomed away using a jetpack boost.

Answer Key

The Orbit Arena Glitch

Culprit: Antoine Glitch-man

Turbo Tackle · Pixel Shield · Left footed kicker · Electric Blue Mohawk · Water blocks

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE GLITCH PLAYER DOES NOT USE PORTAL WARP"

$542 + 331 = 873$ (T) · $333 + 209 = 542$ (S) · $259 + 521 = 780$ (I) · $153 + 87 = 240$ (A) · $602 + 371 = 973$ (N) · $426 + 214 = 640$ (H) · $225 + 111 = 336$ (E) · $522 + 319 = 841$ (U) · $176 + 214 = 390$ (G) · $248 + 173 = 421$ (L) · $112 + 163 = 275$ (O) · $256 + 209 = 465$ (D) · $345 + 365 = 710$ (Y) · $201 + 93 = 294$ (R) · $254 + 246 = 500$ (P) · $521 + 260 = 781$ (C) · $161 + 216 = 377$ (W)

Clue 2 (Subtraction): "THE LEFT FOOTPRINT WAS MUCH DEEPER"

$1156 - 271 = 885$ (T) · $655 - 31 = 624$ (N) · $643 - 81 = 562$ (H) · $327 - 187 = 140$ (E) · $325 - 58 = 267$ (C) · $695 - 4 = 691$ (P) · $716 - 185 = 531$ (S) · $950 - 243 = 707$ (I) · $200 - 80 = 120$ (A) · $1194 - 303 = 891$ (W) · $812 - 341 = 471$ (O) · $500 - 107 = 393$ (D) · $909 - 325 = 584$ (M) · $258 - 96 = 162$ (F) · $598 - 349 = 249$ (L) · $1021 - 265 = 756$ (R) · $732 - 381 = 351$ (U)

Clue 3 (Bar model word problems): "WATER BLOCKS"

Coach Block has 7 times as many rocket boots as a teammate. The teammate has 7 rocket boots. How many rocket boots does Coach Block have? = 49 (W) · Coach Block shares 189 pixel soccer balls equally among 7 teams. How many pixel soccer balls does each team get? = 27 (L) · There were 45 rocket boots in all. 36 rocket boots were used. How many rocket boots are left? = 9 (A) · The red team has 52 space jerseys and the blue team has 20 space jerseys. How many more space jerseys does the red team have? = 32 (R) · Coach Block shares 238 space jerseys equally among 7 teams. How many space jerseys does each team get? = 34 (B) · Coach Block has 4 times as many space jerseys as a teammate. The teammate has 7 space jerseys. How many space jerseys does Coach Block have? = 28 (E) · Coach Block has 6 times as many space jerseys as a teammate. The teammate has 10 space jerseys. How many space jerseys does Coach Block have? = 60 (T)

Clue 4 (Multiplication facts (1-12)): "BLUE MOHAWK PIXELS WERE FOUND"

$5 \times 11 = 55$ (B) · $9 \times 4 = 36$ (M) · $3 \times 1 = 3$ (U) · $12 \times 6 = 72$ (L) · $2 \times 8 = 16$ (F) · $7 \times 7 = 49$ (H) · $9 \times 12 = 108$ (R) · $6 \times 9 = 54$ (S) · $10 \times 10 = 100$ (A) · $8 \times 10 = 80$ (N) · $8 \times 1 = 8$ (E) · $4 \times 7 = 28$ (K) · $2 \times 2 = 4$ (P) · $4 \times 3 = 12$ (X) · $12 \times 12 = 144$ (W) · $7 \times 2 = 14$ (D) · $11 \times 8 = 88$ (I) · $11 \times 9 = 99$ (O)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Antoine Glitch-man

$10 \div 5 = 2$ · $18 \div 3 = 6$ · $11 \div 1 = 11$ · $6 \div 2 = 3$ · $72 \div 6 = 12$ · $1 \div 1 = 1$ · $20 \div 4 = 5$ · $48 \div 6 = 8$ · $27 \div 3 = 9$ · $30 \div 3 = 10$ · $28 \div 7 = 4$