



The Case of the Missing Championship Trophy

Grade 9 math · Two-step equations, Exponents, Square roots, Integers · Reading level grades 7-9

Detective: _____ Date: _____

Just hours before the championship tip-off, the golden MVP trophy went missing from its locked display case. Security footage shows a mysterious figure moving across the hardwood with incredible basketball skills. The Arena Custodian found a basketball signed with a cryptic code. We must solve the clues to identify which player sneaked into the arena and swiped the trophy!

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 Rogue Player is _____

Possible suspects

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

NAME	SIGNATURE MOVE	SUPER COURT GEAR	SHOOTING HAND	HAIRSTYLE	TACTICAL WEAKNESS
LeBron Vance	Ankle-Breaking Crossover	Shatterproof Visor	Right-Handed Shooter	Braided Cornrows	Double-Teaming Defenders
Victor Hayes	Gravity-Defying Windmill Dunk	Spring-Loaded Sneakers	Right-Handed Shooter	Braided Cornrows	Loud Blaring Horns
Damian Fox	Ankle-Breaking Crossover	Heated Shooting Sleeve	Left-Handed Shooter	Neat Buzz Cut	Slippery Polished Floors
Jayson Wells	Half-Court Buzzer-Beater	Shatterproof Visor	Left-Handed Shooter	Braided Cornrows	Slippery Polished Floors
Paolo Finch	Half-Court Buzzer-Beater	Heated Shooting Sleeve	Left-Handed Shooter	Neat Buzz Cut	Slippery Polished Floors
Kawhi Rivers	Half-Court Buzzer-Beater	Spring-Loaded Sneakers	Left-Handed Shooter	Braided Cornrows	Slippery Polished Floors
DeAaron Cole	Gravity-Defying Windmill Dunk	Spring-Loaded Sneakers	Right-Handed Shooter	High Top Fade	Slippery Polished Floors
Nikola Vance	Gravity-Defying Windmill Dunk	Grip-Enhancing Chalk	Left-Handed Shooter	Braided Cornrows	Slippery Polished Floors
Anthony Gray	No-Look Behind-the-Back Pass	Spring-Loaded Sneakers	Right-Handed Shooter	High Top Fade	Loud Blaring Horns
Jimmy Briggs	Half-Court Buzzer-Beater	Spring-Loaded Sneakers	Left-Handed Shooter	Neat Buzz Cut	Slippery Polished Floors
Giannis Okafor	Half-Court Buzzer-Beater	Shatterproof Visor	Right-Handed Shooter	High Top Fade	Slippery Polished Floors
Donovan Cruz	Half-Court Buzzer-Beater	Smart-Tracking Wristband	Left-Handed Shooter	Braided Cornrows	Loud Blaring Horns
Cade Sterling	Gravity-Defying Windmill Dunk	Grip-Enhancing Chalk	Left-Handed Shooter	Neat Buzz Cut	Double-Teaming Defenders
Luka Barrett	Gravity-Defying Windmill Dunk	Smart-Tracking Wristband	Left-Handed Shooter	High Top Fade	Double-Teaming Defenders
Kyrie Brooks	Lockdown Full-Court Press	Heated Shooting Sleeve	Left-Handed Shooter	Braided Cornrows	Slippery Polished Floors
Zion Fletcher	Lockdown Full-Court Press	Heated Shooting Sleeve	Right-Handed Shooter	High Top Fade	Loud Blaring Horns
Devin Harris	Half-Court Buzzer-Beater	Heated Shooting Sleeve	Right-Handed Shooter	Neat Buzz Cut	Loud Blaring Horns
Joel Simmons	No-Look Behind-the-Back Pass	Heated Shooting Sleeve	Left-Handed Shooter	Braided Cornrows	Slippery Polished Floors
Steph Miller	Half-Court Buzzer-Beater	Grip-Enhancing Chalk	Left-Handed Shooter	Neat Buzz Cut	Slippery Polished Floors
LaMelo Park	Lockdown Full-Court Press	Shatterproof Visor	Right-Handed Shooter	Braided Cornrows	Double-Teaming Defenders
Ja Carter	Lockdown Full-Court Press	Smart-Tracking Wristband	Right-Handed Shooter	Braided Cornrows	Slippery Polished Floors

CLUE 1

Two-step equations

The head coach calculates the locker room supply totals using a simple formula. Solve for the missing shipment of basketballs to reveal our first suspect lead.

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

V																	
3	2	9	9	7	2	4	16	14	17	15	4	14	6	22	17	7	12
														V			
6	10	17	15	10	7	6	6	17	12	11	12	14	14	5	3	2	15

$3x + 7 = 16, x = \square \rightarrow \text{V}$

$4x + 1 = 41, x = \square \rightarrow \text{H}$

$5x + 10 = 65, x = \square \rightarrow \text{P}$

$7x + 7 = 49, x = \square \rightarrow \text{T}$

$8x + 2 = 138, x = \square \rightarrow \text{E}$

$9x + 8 = 206, x = \square \rightarrow \text{W}$

$9x + 1 = 145, x = \square \rightarrow \text{D}$

$4x + 4 = 60, x = \square \rightarrow \text{O}$

$6x + 10 = 82, x = \square \rightarrow \text{R}$

$7x + 8 = 22, x = \square \rightarrow \text{I}$

$5x + 1 = 21, x = \square \rightarrow \text{N}$

$4x + 8 = 36, x = \square \rightarrow \text{A}$

$2x + 1 = 19, x = \square \rightarrow \text{L}$

$6x + 9 = 39, x = \square \rightarrow \text{F}$

$6x + 5 = 95, x = \square \rightarrow \text{S}$

Scratch space:

CLUE 2 Exponents

The court's digital scoreboard power grid is arranged in square networks. Calculate the total energy wattage using exponents to bring the arena camera system back online.

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

T										T							T
100	49	512	36	9	484	81	400	4	100	4	243	16	484	512	216	100	
										T							
49	16	121	289	512	289	243	49	441	441	100	512	400					

$10^2 = \square \rightarrow$ T	$21^2 = \square \rightarrow$ O	$6^3 = \square \rightarrow$ F	$22^2 = \square \rightarrow$ L
$7^2 = \square \rightarrow$ H	$3^2 = \square \rightarrow$ U	$20^2 = \square \rightarrow$ R	$11^2 = \square \rightarrow$ N
$8^3 = \square \rightarrow$ E	$6^2 = \square \rightarrow$ C	$17^2 = \square \rightarrow$ D	$4^2 = \square \rightarrow$ A
$3^4 = \square \rightarrow$ P	$3^5 = \square \rightarrow$ S	$2^2 = \square \rightarrow$ I	

Scratch space:

CLUE 3

To check the exact area of the key, we need to find the side lengths of the square floor tiles. Solve the square roots to crack the lock on the team equipment trunk.

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

Two rows of number cards for a memory game. Each row has 16 cards. The first card in each row is an orange 'S' card. The numbers on the cards are:

Row 1: 11, 17, 3, 24, 24, 22, 20, 4, 16, 17, 8, 8, 20, 11, 6, 3, 17, 17

Row 2: 11, 17, 8, 6, 23, 14, 22, 23, 14, 3, 22, 16, 19, 8, 6, 12

sqrt(121) = → **S**

sqrt(400) = → **R**

sqrt(16) = → **Y**

sqrt(36) = → **W**

sqrt(64) = → **0**

sqrt(256) = → **F**

sqrt(576) = → **P**

sqrt(529) = → **T**

sqrt(196) = → **H**

sqrt(484) = → **E**

$\text{sqrt}(361) = \boxed{} \rightarrow \mathbf{D}$

sqrt(289) = → **L**

sqrt(9) = → **1**

sqrt(144) = → **N**

Scratch space:

CLUE 4 Integers

We analyzed the team's plus-minus rating system tracking positive gains and negative losses. Calculate the net integer score to trace the suspect's movement across the court.

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

T			T																
12	39	14	12	39	40	14	34	18	14	36	20	24	28	20	36	40	4	14	4
38	2	20	26	20	2	18	24												

$9 - (-3) = \square \rightarrow \text{T}$	$(-7) + 9 = \square \rightarrow \text{O}$	$(-11) + 29 = \square \rightarrow \text{W}$
$(-3) + 42 = \square \rightarrow \text{H}$	$23 - (-5) = \square \rightarrow \text{B}$	$(-15) + 29 = \square \rightarrow \text{E}$
$(-8) + 28 = \square \rightarrow \text{R}$	$(-13) + 17 = \square \rightarrow \text{D}$	$(-12) + 38 = \square \rightarrow \text{N}$
$(-6) + 44 = \square \rightarrow \text{C}$	$(-13) + 49 = \square \rightarrow \text{A}$	$(-14) + 38 = \square \rightarrow \text{S}$
$(-4) + 44 = \square \rightarrow \text{I}$	$30 - (-4) = \square \rightarrow \text{F}$	

Scratch space:

CLUE 5**Two-step equations - the last clue**

The ticket office needs to balance the VIP seat revenue equations to find out who bought the ticket near the trophy stand. Solve the algebra to reveal 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:

$4x + 11 = 23, x = \boxed{}$

$9x + 6 = 15, x = \boxed{}$

$7x + 11 = 39, x = \boxed{}$

$4x + 7 = 43, x = \boxed{}$

$6x + 9 = 81, x = \boxed{}$

$2x + 2 = 16, x = \boxed{}$

$3x + 10 = 25, x = \boxed{}$

$5x + 3 = 13, x = \boxed{}$

$3x + 10 = 40, x = \boxed{}$

$4x + 2 = 46, x = \boxed{}$

$5x + 10 = 40, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain locks down the court with a full-court press, then warms up using a heated shooting sleeve.
2. The villain locks down the court with a full-court press, then adjusts a durable shatterproof visor.
3. The villain drains a stunning half-court buzzer-beater, then leaps high using spring-loaded sneakers.
4. The villain flashes a slick no-look behind-the-back pass, then warms up using a heated shooting sleeve.
5. The villain locks down the court with a full-court press, then leaps high using spring-loaded sneakers.
6. The villain flashes a slick no-look behind-the-back pass, then leaps high using spring-loaded sneakers.
7. The villain executes a lightning ankle-breaking crossover, then adjusts a durable shatterproof visor.
8. The villain unleashes a gravity-defying windmill dunk, then gains control with grip-enhancing chalk.
9. The villain unleashes a gravity-defying windmill dunk, then adjusts a durable shatterproof visor.
10. The villain locks down the court with a full-court press, then taps a high-tech smart-tracking wristband.
11. The villain unleashes a gravity-defying windmill dunk, then warms up using a heated shooting sleeve.
12. The villain drains a stunning half-court buzzer-beater, then warms up using a heated shooting sleeve.

Answer Key

The Case of the Missing Championship Trophy

Culprit: Nikola Vance

Gravity-Defying Windmill Dunk · Grip-Enhancing Chalk · Left-Handed Shooter · Braided Cornrows · Slippery Polished Floors

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

Clue 1 (Two-step equations): "VILLAIN DOES NOT WEAR THE SHATTERPROOF VISOR"

$3x + 7 = 16, x = 3$ (V) · $4x + 1 = 41, x = 10$ (H) · $5x + 10 = 65, x = 11$ (P) · $7x + 7 = 49, x = 6$ (T) · $8x + 2 = 138, x = 17$ (E) · $9x + 8 = 206, x = 22$ (W) · $9x + 1 = 145, x = 16$ (D) · $4x + 4 = 60, x = 14$ (O) · $6x + 10 = 82, x = 12$ (R) · $7x + 8 = 22, x = 2$ (I) · $5x + 1 = 21, x = 4$ (N) · $4x + 8 = 36, x = 7$ (A) · $2x + 1 = 19, x = 9$ (L) · $6x + 9 = 39, x = 5$ (F) · $6x + 5 = 95, x = 15$ (S)

Clue 2 (Exponents): "THE CULPRIT IS A LEFT HANDED SHOOTER"

$10^2 = 100$ (T) · $21^2 = 441$ (O) · $6^3 = 216$ (F) · $22^2 = 484$ (L) · $7^2 = 49$ (H) · $3^2 = 9$ (U) · $20^2 = 400$ (R) · $11^2 = 121$ (N) · $8^3 = 512$ (E) · $6^2 = 36$ (C) · $17^2 = 289$ (D) · $4^2 = 16$ (A) · $3^4 = 81$ (P) · $3^5 = 243$ (S) · $2^2 = 4$ (I)

Clue 3 (Square roots): "SLIPPERY FLOORS WILL SLOW THE THIEF DOWN"

$\sqrt{121} = 11$ (S) · $\sqrt{400} = 20$ (R) · $\sqrt{16} = 4$ (Y) · $\sqrt{36} = 6$ (W) · $\sqrt{64} = 8$ (O) · $\sqrt{256} = 16$ (F) · $\sqrt{576} = 24$ (P) · $\sqrt{529} = 23$ (T) · $\sqrt{196} = 14$ (H) · $\sqrt{484} = 22$ (E) · $\sqrt{361} = 19$ (D) · $\sqrt{289} = 17$ (L) · $\sqrt{9} = 3$ (I) · $\sqrt{144} = 12$ (N)

Clue 4 (Integers): "THE THIEF WEARS BRAIDED CORNROWS"

$9 - (-3) = 12$ (T) · $(-7) + 9 = 2$ (O) · $(-11) + 29 = 18$ (W) · $(-3) + 42 = 39$ (H) · $23 - (-5) = 28$ (B) · $(-15) + 29 = 14$ (E) · $(-8) + 28 = 20$ (R) · $(-13) + 17 = 4$ (D) · $(-12) + 38 = 26$ (N) · $(-6) + 44 = 38$ (C) · $(-13) + 49 = 36$ (A) · $(-14) + 38 = 24$ (S) · $(-4) + 44 = 40$ (I) · $30 - (-4) = 34$ (F)

Clue 5 (Two-step equations): surviving statement is box 8 → Nikola Vance

$4x + 11 = 23, x = 3$ · $9x + 6 = 15, x = 1$ · $7x + 11 = 39, x = 4$ · $4x + 7 = 43, x = 9$ · $6x + 9 = 81, x = 12$ · $2x + 2 = 16, x = 7$ · $3x + 10 = 25, x = 5$ · $5x + 3 = 13, x = 2$ · $3x + 10 = 40, x = 10$ · $4x + 2 = 46, x = 11$ · $5x + 10 = 40, x = 6$