



The Championship Trophy Heist

Grade 7 math · Integers, Percentages, Order of operations, Exponents, Two-step equations · Reading level grades 7-9

Detective: _____ Date: _____

The golden MVP Trophy has vanished from the arena lobby display case right before the tip-off of the championship game! A cheeky note left behind suggests one of the All-Star players pulled off the heist to secure their own glory. Security has locked down the court, and we have a roster of suspects. We need to crack the math clues left behind to unmask the Hoop Bandit before the final buzzer sounds.

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 Hoop Bandit 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	LUCKY GEAR	SHOOTING HAND	HAIRSTYLE	DEFENSIVE FLAW
Klay Robinson	No-Look Pass	Patterned Grip Tape	Left-Handed Shooter	Dreadlocks	Double Team
Devin Walker	Crossover Dribble	Patterned Grip Tape	Right-Handed Shooter	Shaved Head	Full Court Press
Donovan Banks	Crossover Dribble	Red High-Top Shoes	Left-Handed Shooter	Dreadlocks	Double Team
Zach Miller	Windmill Dunk	Red High-Top Shoes	Right-Handed Shooter	Dreadlocks	Double Team
Zion Vance	No-Look Pass	Patterned Grip Tape	Right-Handed Shooter	High Top Fade	Full Court Press
Andre Evans	No-Look Pass	Red High-Top Shoes	Left-Handed Shooter	Dreadlocks	Zone Defense
Isaiah Cooper	No-Look Pass	Neon Green Sneakers	Right-Handed Shooter	High Top Fade	Full Court Press
Deandre Hall	No-Look Pass	Black Headband	Right-Handed Shooter	High Top Fade	Full Court Press
Jaden Brooks	Windmill Dunk	Patterned Grip Tape	Left-Handed Shooter	Shaved Head	Double Team
Jordan Reed	Windmill Dunk	Red High-Top Shoes	Right-Handed Shooter	High Top Fade	Double Team
Devon Harris	Crossover Dribble	Neon Green Sneakers	Left-Handed Shooter	High Top Fade	Zone Defense
Camron Diaz	Crossover Dribble	Neon Green Sneakers	Left-Handed Shooter	Shaved Head	Full Court Press
Trey Parker	Windmill Dunk	Red High-Top Shoes	Right-Handed Shooter	High Top Fade	Full Court Press
Malik Carter	Step-Back Three	Red High-Top Shoes	Right-Handed Shooter	High Top Fade	Full Court Press
Luka Hayes	Crossover Dribble	Neon Green Sneakers	Right-Handed Shooter	Shaved Head	Full Court Press
RJ Hampton	Euro-Step Layup	Patterned Grip Tape	Left-Handed Shooter	High Top Fade	Full Court Press
Dame Taylor	Crossover Dribble	Black Headband	Right-Handed Shooter	High Top Fade	Full Court Press
Lamelo West	Step-Back Three	Gold Arm Sleeve	Left-Handed Shooter	High Top Fade	Zone Defense
Marcus Thompson	Windmill Dunk	Neon Green Sneakers	Left-Handed Shooter	Dreadlocks	Double Team
Kyrie Jones	No-Look Pass	Black Headband	Right-Handed Shooter	High Top Fade	Double Team
Tyler Cruz	Euro-Step Layup	Red High-Top Shoes	Right-Handed Shooter	High Top Fade	Double Team

CLUE 1 Integers

To find the first clue, we examine the arena's scoreboard logs, which track score changes as positive and negative integers during the chaotic blackout.

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

T									T									T
3	22	10		1	5	30	4	6	3	4	27	10	24	30	27	3		
7	10	5	29	29	10	4	22	6	28	22	T							
											3	27	16	24	22	27	10	24

$$(-5) + 8 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$15 - (-7) = \boxed{} \rightarrow \boxed{\text{H}}$$

$$22 - (-6) = \boxed{} \rightarrow \boxed{\text{G}}$$

$$1 - (-4) = \boxed{} \rightarrow \boxed{\text{A}}$$

$$(-3) + 19 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$18 - (-6) = \boxed{} \rightarrow \boxed{\text{S}}$$

$$(-13) + 14 = \boxed{} \rightarrow \boxed{\text{B}}$$

$$17 - (-10) = \boxed{} \rightarrow \boxed{\text{O}}$$

$$(-10) + 17 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$(-9) + 39 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$(-8) + 14 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$(-7) + 17 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$27 - (-2) = \boxed{} \rightarrow \boxed{\text{R}}$$

$$1 - (-3) = \boxed{} \rightarrow \boxed{\text{D}}$$

Scratch space:

CLUE 2 Percentages

For the second clue, the assistant coach analyzes the players' field-goal percentages from the warm-up drills recorded on the stat sheet.

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

T									T				T					T
17	25	7	33	27	33	42	7	22	17	33	25	12	17	38	36	49	25	17
								T					T					
25	21	16	35	7	35	12	16	17	25	7	22	12	27	38	17			

$$50\% \text{ of } 34 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$40\% \text{ of } 95 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$5\% \text{ of } 140 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$75\% \text{ of } 44 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5\% \text{ of } 320 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$20\% \text{ of } 125 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$25\% \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$75\% \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$50\% \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$20\% \text{ of } 175 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$5\% \text{ of } 840 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$50\% \text{ of } 98 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$5\% \text{ of } 540 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$5\% \text{ of } 440 = \boxed{} \rightarrow \boxed{\text{C}}$$

Scratch space:

CLUE 3 Order of operations

To unlock the third clue, we must calculate the complex tournament seeding formula, carefully following the correct order of operations.

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

T									T							
117	61	89	59	12	49	120	52	117	50	8	51	59	19	89	72	
							T									T
12	109	12	52	49	72	117	12	50	8	19	19	67	116	8	87	117
97	87	89	72	72												

$89 + 4 \times 7 = \square \rightarrow$ T	$93 + 9 \times 3 = \square \rightarrow$ D	$4 + 2 \times 2 = \square \rightarrow$ U
$81 + 4 \times 7 = \square \rightarrow$ G	$6 \times 9 - 5 = \square \rightarrow$ N	$9 \times 10 - 1 = \square \rightarrow$ E
$28 + 4 \times 6 = \square \rightarrow$ I	$5 \times 5 - 13 = \square \rightarrow$ A	$9 \times 8 - 11 = \square \rightarrow$ H
$35 + 4 \times 8 = \square \rightarrow$ C	$29 + 3 \times 7 = \square \rightarrow$ F	$13 + 2 \times 3 = \square \rightarrow$ L
$42 + 9 \times 5 = \square \rightarrow$ R	$11 \times 12 - 16 = \square \rightarrow$ O	$10 \times 10 - 28 = \square \rightarrow$ S
$6 \times 11 - 7 = \square \rightarrow$ B	$57 + 8 \times 5 = \square \rightarrow$ P	$7 \times 10 - 19 = \square \rightarrow$ M

Scratch space:

CLUE 4

The fourth clue is hidden inside a secure digital locker, requiring a passcode equal to the exponential growth rate of the tournament's viral video views.

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

Diagram illustrating the sequence of operations for the first row of the matrix chain multiplication problem. The sequence is: A (128x128), 16x125, 125x144, 144x16, 4x25, 25x196, 256x128, 128x100, 100x121, 16x128, 128x125, 125x169. The matrix A is highlighted in orange.

$2^7 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$$10^2 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

$2^5 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$2^4 = \boxed{} \rightarrow \boxed{\text{H}}$

$3^3 = \square \rightarrow \boxed{\text{N}}$

$$2^2 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$13^2 = \boxed{} \rightarrow \boxed{\text{R}}$$

$7^2 = \square \rightarrow \boxed{\mathbf{S}}$

$$11^2 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$18^2 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$5^3 = \boxed{} \rightarrow \boxed{1}$

$$14^2 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$6^2 = \boxed{} \rightarrow \boxed{W}$$

$4^4 = \square \rightarrow \boxed{\mathbf{F}}$

$$12^2 = \boxed{} \rightarrow \boxed{\text{G}}$$

$5^2 = \boxed{} \rightarrow \boxed{0}$

Scratch space:

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

For the final clue, the referee sets up a two-step equation to balance the total weight of the basketballs and the team equipment bags.

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:

$6x + 3 = 69, x = \boxed{}$

$5x + 12 = 37, x = \boxed{}$

$5x + 7 = 57, x = \boxed{}$

$6x + 7 = 55, x = \boxed{}$

$5x + 2 = 22, x = \boxed{}$

$6x + 4 = 22, x = \boxed{}$

$4x + 2 = 30, x = \boxed{}$

$5x + 11 = 56, x = \boxed{}$

$3x + 7 = 43, x = \boxed{}$

$5x + 5 = 15, x = \boxed{}$

$3x + 9 = 12, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain fakes a step-back three, then adjusts their gold arm sleeve.
2. The villain throws a flashy no-look pass, then scuffs their red high-top shoes.
3. The villain breaks ankles with a crossover dribble, then adjusts their gold arm sleeve.
4. The villain racks the rim with a windmill dunk, then flashes their neon green sneakers.
5. The villain breaks ankles with a crossover dribble, then tightens their black headband.
6. The villain throws a flashy no-look pass, then flashes their neon green sneakers.
7. The villain throws a flashy no-look pass, then adjusts their gold arm sleeve.
8. The villain fakes a step-back three, then tightens their black headband.
9. The villain fakes a step-back three, then wraps their patterned grip tape.
10. The villain throws a flashy no-look pass, then wraps their patterned grip tape.
11. The villain throws a flashy no-look pass, then tightens their black headband.
12. The villain glides past defenders with a euro-step layup, then wraps their patterned grip tape.

Answer Key

The Championship Trophy Heist

Culprit: Isaiah Cooper

No-Look Pass · Neon Green Sneakers · Right-Handed Shooter · High Top Fade · Full Court Press

Trail: Start 21 → Clue 1 14 → Clue 2 7 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE BANDIT DOES NOT WEAR RED HIGH TOP SHOES"

$(-5) + 8 = 3$ (T) · $15 - (-7) = 22$ (H) · $22 - (-6) = 28$ (G) · $1 - (-4) = 5$ (A) · $(-3) + 19 = 16$ (P) · $18 - (-6) = 24$ (S) · $(-13) + 14 = 1$ (B) · $17 - (-10) = 27$ (O) · $(-10) + 17 = 7$ (W) · $(-9) + 39 = 30$ (N) · $(-8) + 14 = 6$ (I) · $(-7) + 17 = 10$ (E) · $27 - (-2) = 29$ (R) · $1 - (-3) = 4$ (D)

Clue 2 (Percentages): "THE SUSPECT SHOT RIGHT HANDED ON THE COURT"

50% of 34 = 17 (T) · 40% of 95 = 38 (R) · 5% of 140 = 7 (E) · 75% of 44 = 33 (S) · 5% of 320 = 16 (N) · 20% of 125 = 25 (H) · 25% of 48 = 12 (O) · 75% of 48 = 36 (I) · 50% of 42 = 21 (A) · 20% of 175 = 35 (D) · 5% of 840 = 42 (P) · 50% of 98 = 49 (G) · 5% of 540 = 27 (U) · 5% of 440 = 22 (C)

Clue 3 (Order of operations): "THE BANDIT FUMBLES AGAINST A FULL COURT PRESS"

$89 + 4 \times 7 = 117$ (T) · $93 + 9 \times 3 = 120$ (D) · $4 + 2 \times 2 = 8$ (U) · $81 + 4 \times 7 = 109$ (G) · $6 \times 9 - 5 = 49$ (N) · $9 \times 10 - 1 = 89$ (E) · $28 + 4 \times 6 = 52$ (I) · $5 \times 5 - 13 = 12$ (A) · $9 \times 8 - 11 = 61$ (H) · $35 + 4 \times 8 = 67$ (C) · $29 + 3 \times 7 = 50$ (F) · $13 + 2 \times 3 = 19$ (L) · $42 + 9 \times 5 = 87$ (R) · $11 \times 12 - 16 = 116$ (O) · $10 \times 10 - 28 = 72$ (S) · $6 \times 11 - 7 = 59$ (B) · $57 + 8 \times 5 = 97$ (P) · $7 \times 10 - 19 = 51$ (M)

Clue 4 (Exponents): "A HIGH TOP FADE HAIR FIBER WAS ON THE TROPHY"

$2^7 = 128$ (A) · $10^2 = 100$ (D) · $2^5 = 32$ (B) · $2^4 = 16$ (H) · $3^3 = 27$ (N) · $2^2 = 4$ (T) · $13^2 = 169$ (R) · $7^2 = 49$ (S) · $11^2 = 121$ (E) · $18^2 = 324$ (Y) · $5^3 = 125$ (I) · $14^2 = 196$ (P) · $6^2 = 36$ (W) · $4^4 = 256$ (F) · $12^2 = 144$ (G) · $5^2 = 25$ (O)

Clue 5 (Two-step equations): surviving statement is box 6 → Isaiah Cooper

$6x + 3 = 69, x = 11$ · $5x + 12 = 37, x = 5$ · $5x + 7 = 57, x = 10$ · $6x + 7 = 55, x = 8$ · $5x + 2 = 22, x = 4$ · $6x + 4 = 22, x = 3$ · $4x + 2 = 30, x = 7$ · $5x + 11 = 56, x = 9$ · $3x + 7 = 43, x = 12$ · $5x + 5 = 15, x = 2$ · $3x + 9 = 12, x = 1$