



The Case of the Missing Golden Trophy

Grade 4 math · Place value, Multiplication, Rounding, Addition, Missing addends · Reading level grades 3-4

Detective: _____ **Date:** _____

The biggest game of the year is about to start at the Mega-Dome, but someone has stolen the Golden Trophy! The Head Coach needs your help right away. Solve the sports math, crack the clues, and find out which athlete took 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 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	FAVORITE SPORT	SPECIAL GEAR	THROWING HAND	HEADWEAR COLOR	FAVORITE SNACK
Shaquille O'Neal	throwing passes	sticky gloves	uses left hand	blue sweatband	chewing gum
Chloe Kim	throwing passes	high tech stopwatch	uses left hand	blue sweatband	sports drinks
LeBron James	hitting homers	glow in the dark visor	uses left hand	green visor	sports drinks
Kylian Mbappe	running sprints	high tech stopwatch	uses left hand	red helmet	chewing gum
Coco Gauff	dunking balls	glow in the dark visor	uses left hand	red helmet	sports drinks
Sydney McLaughlin	running sprints	sticky gloves	uses right hand	blue sweatband	salty pretzels
Stephen Curry	throwing passes	super spring shoes	uses left hand	blue sweatband	chewing gum
Travis Kelce	running sprints	turbo water bottle	uses left hand	green visor	sports drinks
Giannis Antetokounmpo	dunking balls	super spring shoes	uses left hand	blue sweatband	sports drinks
Usain Bolt	dunking balls	sticky gloves	uses left hand	blue sweatband	sports drinks
Alex Morgan	kicking goals	super spring shoes	uses left hand	red helmet	chewing gum
Serena Williams	kicking goals	glow in the dark visor	uses right hand	blue sweatband	chewing gum
Venus Williams	running sprints	turbo water bottle	uses left hand	blue sweatband	chewing gum
Naomi Osaka	throwing passes	glow in the dark visor	uses left hand	blue sweatband	chewing gum
Luka Doncic	running sprints	super spring shoes	uses right hand	green visor	sports drinks
Harry Kane	dunking balls	super spring shoes	uses left hand	red helmet	chewing gum
Shohei Ohtani	throwing passes	glow in the dark visor	uses right hand	red helmet	chewing gum
Megan Rapinoe	running sprints	high tech stopwatch	uses right hand	blue sweatband	salty pretzels
Simone Biles	dunking balls	sticky gloves	uses left hand	blue sweatband	chewing gum
Tony Hawk	throwing passes	sticky gloves	uses left hand	red helmet	chewing gum
Tom Brady	hitting homers	turbo water bottle	uses right hand	blue sweatband	chewing gum

CLUE 1 Place value

We need to unlock the locker room door to search for clues. The digital lock screen shows a code, but we must find the digit in the tens place to open it!

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

T			T											T				
20	70	5000	20	70	3000	5000	80	7000	40	5000	2000	200	40	20	8000	5000	900	10
900	100	30	40	8000	6000	3000	2000	40	10									

What is the value of the 2 in 527? → **T**

What is the value of the 8 in 48,349? → **W**

What is the value of the 3 in 9,439? → **L**

What is the value of the 7 in 2,479? → **H**

What is the value of the 1 in 159? → **G**

What is the value of the 1 in 414? → **R**

What is the value of the 3 in 3,909? → **I**

What is the value of the 4 in 5,048? → **O**

What is the value of the 9 in 988? → **A**

What is the value of the 2 in 9,293? → **N**

What is the value of the 8 in 2,189? → **F**

What is the value of the 2 in 72,873? → **S**

What is the value of the 6 in 6,271? → **V**

What is the value of the 7 in 7,188? → **D**

What is the value of the 5 in 5,170? → **E**

Scratch space:

CLUE 2
Multiplication facts (1-12)

The coach is setting up training cones on the practice field. There are several rows with a set number of cones in each row. Let us multiply to count them!

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

T				T					T							
50	108	32	40	50	108	88	32	70	50	108	32	27	84	22	22	
		T		T								T				
70	120	50	108	50	108	32	120	88	22	32	63	50	108	84	14	3

$10 \times 5 = \square \rightarrow$ T	$1 \times 3 = \square \rightarrow$ D	$12 \times 9 = \square \rightarrow$ H
$8 \times 4 = \square \rightarrow$ E	$11 \times 8 = \square \rightarrow$ R	$2 \times 7 = \square \rightarrow$ N
$7 \times 12 = \square \rightarrow$ A	$10 \times 7 = \square \rightarrow$ W	$7 \times 9 = \square \rightarrow$ F
$3 \times 9 = \square \rightarrow$ B	$2 \times 11 = \square \rightarrow$ L	$10 \times 4 = \square \rightarrow$ Y
$10 \times 12 = \square \rightarrow$ I		

Scratch space:

CLUE 3 Rounding

The giant stadium radar just clocked the thief running past the gate. The radar only displays speeds rounded to the nearest ten, so let us check the readout!

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

T										T				
1300	20	1700	900	500	1700	3700	50	90	1300	20	7000	1700	290	

300	130	4300	170	170	1700	300	2300	20	1700	2000	7000	500	5000	5000

Round 1,291 to the nearest hundred → **T**

Round 6,729 to the nearest thousand → **I**

Round 901 to the nearest hundred → **S**

Round 54 to the nearest ten → **K**

Round 473 to the nearest hundred → **N**

Round 368 to the nearest ten → **U**

Round 24 to the nearest ten → **H**

Round 174 to the nearest ten → **P**

Round 92 to the nearest ten → **Y**

Round 190 to the nearest hundred → **M**

Round 4,318 to the nearest hundred → **O**

Round 3,721 to the nearest hundred → **A**

Round 1,699 to the nearest hundred → **E**

Round 4,798 to the nearest thousand → **G**

Round 132 to the nearest ten → **R**

Round 294 to the nearest ten → **F**

Round 2,441 to the nearest thousand → **W**

Round 2,282 to the nearest hundred → **C**

Round 271 to the nearest hundred → **D**

Scratch space:

CLUE 4 **Addition**

We need to tally up all the extra equipment we found dropped by the bleachers. Let us add them together to find the total!

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

T							T							
2505	2369	9829	5553	8144	9829	4335	2505	5860	3323	8144	4183	9829		
				T										
9038	9384	9829	5860	2505	3323	5860	7545	4927	3323	9829	2369	6426	7545	4927

$755 + 1750 = \square \rightarrow \text{[T]}$

$3950 + 1910 = \square \rightarrow \text{[A]}$

$4148 + 4890 = \square \rightarrow \text{[S]}$

$5728 + 3656 = \square \rightarrow \text{[W]}$

$2188 + 2739 = \square \rightarrow \text{[D]}$

$1353 + 2982 = \square \rightarrow \text{[F]}$

$2566 + 5578 = \square \rightarrow \text{[L]}$

$811 + 1558 = \square \rightarrow \text{[H]}$

$2819 + 1364 = \square \rightarrow \text{[U]}$

$2115 + 1208 = \square \rightarrow \text{[B]}$

$3455 + 4090 = \square \rightarrow \text{[N]}$

$3144 + 2409 = \square \rightarrow \text{[Y]}$

$3932 + 2494 = \square \rightarrow \text{[I]}$

$4102 + 5727 = \square \rightarrow \text{[E]}$

Scratch space:

CLUE 5**Missing addends - the last clue**

The team needs a specific number of clean towels for the game. We only have some of them. Let us find how many more we need to get!

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:

$23 + \underline{\quad} = 32$

$28 + \underline{\quad} = 31$

$40 + \underline{\quad} = 52$

$16 + \underline{\quad} = 21$

$16 + \underline{\quad} = 23$

$27 + \underline{\quad} = 37$

$37 + \underline{\quad} = 39$

$33 + \underline{\quad} = 44$

$20 + \underline{\quad} = 26$

$37 + \underline{\quad} = 45$

$20 + \underline{\quad} = 24$

Step 2 - cross out the sentence with each answer:

1. The villain throws a perfect touchdown pass, then swipes the trophy using sticky gloves.
2. The villain runs a super fast sprint down the track, then swipes the trophy using sticky gloves.
3. The villain dunks a basketball over the defense, then swipes the trophy using sticky gloves.
4. The villain runs a super fast sprint down the track, then times their getaway with a high tech stopwatch.
5. The villain dunks a basketball over the defense, then sips from a turbo water bottle to escape.
6. The villain hits a massive home run over the wall, then runs into the dark wearing a glow visor.
7. The villain hits a massive home run over the wall, then swipes the trophy using sticky gloves.
8. The villain hits a massive home run over the wall, then times their getaway with a high tech stopwatch.
9. The villain throws a perfect touchdown pass, then leaps over the stadium fence with super spring shoes.
10. The villain kicks a soccer ball into the top corner, then swipes the trophy using sticky gloves.
11. The villain kicks a soccer ball into the top corner, then times their getaway with a high tech stopwatch.
12. The villain runs a super fast sprint down the track, then sips from a turbo water bottle to escape.

Answer Key

The Case of the Missing Golden Trophy

Culprit: Shaquille O'Neal

throwing passes · sticky gloves · uses left hand · blue sweatband · chewing gum

Trail: Start 21 → Clue 1 16 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT WEAR A GLOW VISOR"

What is the value of the 2 in 527? = 20 (T) · What is the value of the 8 in 48,349? = 8000 (W) · What is the value of the 3 in 9,439? = 30 (L) · What is the value of the 7 in 2,479? = 70 (H) · What is the value of the 1 in 159? = 100 (G) · What is the value of the 1 in 414? = 10 (R) · What is the value of the 3 in 3,909? = 3000 (I) · What is the value of the 4 in 5,048? = 40 (O) · What is the value of the 9 in 988? = 900 (A) · What is the value of the 2 in 9,293? = 200 (N) · What is the value of the 8 in 2,189? = 80 (F) · What is the value of the 2 in 72,873? = 2000 (S) · What is the value of the 6 in 6,271? = 6000 (V) · What is the value of the 7 in 7,188? = 7000 (D) · What is the value of the 5 in 5,170? = 5000 (E)

Clue 2 (Multiplication facts (1-12)): "THEY THREW THE BALL WITH THEIR LEFT HAND"

$10 \times 5 = 50$ (T) · $1 \times 3 = 3$ (D) · $12 \times 9 = 108$ (H) · $8 \times 4 = 32$ (E) · $11 \times 8 = 88$ (R) · $2 \times 7 = 14$ (N) · $7 \times 12 = 84$ (A) · $10 \times 7 = 70$ (W) · $7 \times 9 = 63$ (F) · $3 \times 9 = 27$ (B) · $2 \times 11 = 22$ (L) · $10 \times 4 = 40$ (Y) · $10 \times 12 = 120$ (I)

Clue 3 (Rounding): "THE SNEAKY THIEF DROPPED CHEWING GUM"

Round 1,291 to the nearest hundred = 1300 (T) · Round 6,729 to the nearest thousand = 7000 (I) · Round 901 to the nearest hundred = 900 (S) · Round 54 to the nearest ten = 50 (K) · Round 473 to the nearest hundred = 500 (N) · Round 368 to the nearest ten = 370 (U) · Round 24 to the nearest ten = 20 (H) · Round 174 to the nearest ten = 170 (P) · Round 92 to the nearest ten = 90 (Y) · Round 190 to the nearest hundred = 200 (M) · Round 4,318 to the nearest hundred = 4300 (O) · Round 3,721 to the nearest hundred = 3700 (A) · Round 1,699 to the nearest hundred = 1700 (E) · Round 4,798 to the nearest thousand = 5000 (G) · Round 132 to the nearest ten = 130 (R) · Round 294 to the nearest ten = 290 (F) · Round 2,441 to the nearest thousand = 2000 (W) · Round 2,282 to the nearest hundred = 2300 (C) · Round 271 to the nearest hundred = 300 (D)

Clue 4 (Addition): "THEY LEFT A BLUE SWEATBAND BEHIND"

$755 + 1750 = 2505$ (T) · $3950 + 1910 = 5860$ (A) · $4148 + 4890 = 9038$ (S) · $5728 + 3656 = 9384$ (W) · $2188 + 2739 = 4927$ (D) · $1353 + 2982 = 4335$ (F) · $2566 + 5578 = 8144$ (L) · $811 + 1558 = 2369$ (H) · $2819 + 1364 = 4183$ (U) · $2115 + 1208 = 3323$ (B) · $3455 + 4090 = 7545$ (N) · $3144 + 2409 = 5553$ (Y) · $3932 + 2494 = 6426$ (I) · $4102 + 5727 = 9829$ (E)

Clue 5 (Missing addends): surviving statement is box 1 → Shaquille O'Neal

$23 + \underline{\quad} = 32 = 9$ · $28 + \underline{\quad} = 31 = 3$ · $40 + \underline{\quad} = 52 = 12$ · $16 + \underline{\quad} = 21 = 5$ · $16 + \underline{\quad} = 23 = 7$ · $27 + \underline{\quad} = 37 = 10$ · $37 + \underline{\quad} = 39 = 2$ · $33 + \underline{\quad} = 44 = 11$ · $20 + \underline{\quad} = 26 = 6$ · $37 + \underline{\quad} = 45 = 8$ · $20 + \underline{\quad} = 24 = 4$