The Case of the Missing Terrible Towel

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

Detective: _____ **Date:** _____

Right before the big game in Pittsburgh, the official lucky Terrible Towel went missing from the locker room! A sneaky stadium prankster slipped through the tunnel and took it. Solve the math clues around the stadium to uncover who did it and get the lucky towel back in time for kickoff!

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 stadium prankster is _____

Possible suspects

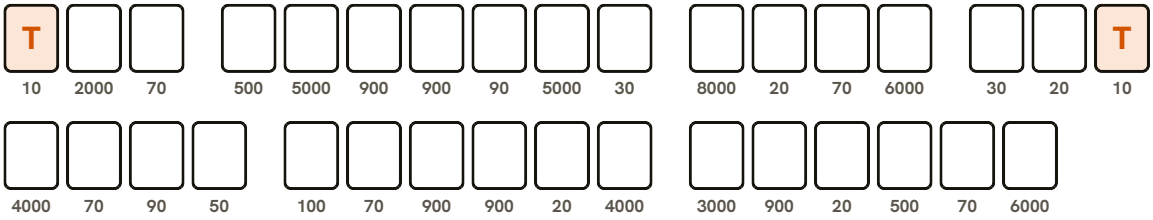
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	FAVORITE PLAY	LUCKY GEAR	THROWING HAND	HELMET STYLE	STADIUM SNACK
Maurkice Pouncey	Blitz Defense	Steel Mask	Left Handed	White Helmet	Nachos
Joey Porter	Deep Post	Steel Mask	Right Handed	Black Helmet	Pretzels
Jack Lambert	Field Goal	Black Visor	Right Handed	Black Helmet	Pretzels
Najee Harris	Screen Pass	Yellow Gloves	Right Handed	White Helmet	Nachos
Jerome Bettis	Blitz Defense	Padded Armband	Right Handed	Black Helmet	Popcorn
Brett Keisel	Screen Pass	Steel Mask	Right Handed	Black Helmet	Pretzels
John Stallworth	Field Goal	Yellow Gloves	Right Handed	Black Helmet	Pretzels
Terry Bradshaw	Deep Post	Padded Armband	Left Handed	Gold Helmet	Nachos
Alex Highsmith	QB Sneak	Black Visor	Left Handed	Black Helmet	Pretzels
Franco Harris	Blitz Defense	Padded Armband	Left Handed	White Helmet	Pretzels
Heath Miller	Blitz Defense	Yellow Gloves	Right Handed	White Helmet	Popcorn
Kenny Pickett	QB Sneak	Steel Mask	Left Handed	Black Helmet	Pretzels
TJ Watt	Field Goal	Padded Armband	Right Handed	White Helmet	Nachos
Lynn Swann	Deep Post	Black Visor	Left Handed	Black Helmet	Pretzels
Minkah Fitzpatrick	QB Sneak	Black Visor	Right Handed	Black Helmet	Popcorn
Mel Blount	Field Goal	Steel Mask	Left Handed	Black Helmet	Nachos
Ben Roethlisberger	Screen Pass	Steel Mask	Left Handed	Gold Helmet	Pretzels
Rod Woodson	Deep Post	Yellow Gloves	Left Handed	Black Helmet	Pretzels
James Harrison	Field Goal	Gold Cleats	Left Handed	Black Helmet	Pretzels
Hines Ward	Field Goal	Gold Cleats	Left Handed	White Helmet	Popcorn
Troy Polamalu	Deep Post	Padded Armband	Left Handed	White Helmet	Pretzels

CLUE 1 Place value

The coach looked at the giant digit board near the locker room to reveal the first secret.

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



What is the value of the 1 in 8,418? ☐ → T

What is the value of the 9 in 987? ☐ → L

What is the value of the 5 in 9,512? ☐ → V

What is the value of the 2 in 820? ☐ → O

What is the value of the 5 in 9,053? ☐ → R

What is the value of the 4 in 4,638? ☐ → W

What is the value of the 2 in 2,954? ☐ → H

What is the value of the 6 in 6,571? ☐ → S

What is the value of the 3 in 4,630? ☐ → N

What is the value of the 3 in 3,192? ☐ → G

What is the value of the 5 in 85,487? ☐ → I

What is the value of the 9 in 792? ☐ → A

What is the value of the 8 in 8,462? ☐ → D

What is the value of the 7 in 878? ☐ → E

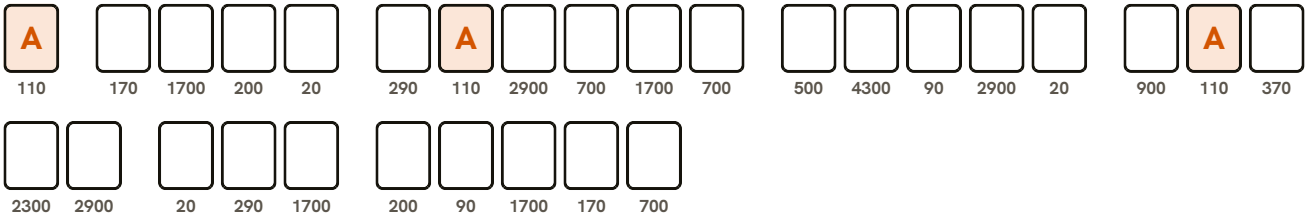
What is the value of the 1 in 159? ☐ → Y

Scratch space:

CLUE 2 Rounding

The giant scoreboard screen rounded the crowd total to help narrow down the suspect list.

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



Round 108 to the nearest ten ☐ → A

Round 2,928 to the nearest hundred ☐ → N

Round 696 to the nearest hundred ☐ → D

Round 4,326 to the nearest hundred ☐ → R

Round 202 to the nearest hundred ☐ → F

Round 22 to the nearest ten ☐ → T

Round 89 to the nearest ten ☐ → I

Round 289 to the nearest ten ☐ → H

Round 1,707 to the nearest hundred ☐ → E

Round 369 to the nearest ten ☐ → S

Round 530 to the nearest hundred ☐ → P

Round 948 to the nearest hundred ☐ → W

Round 168 to the nearest ten ☐ → L

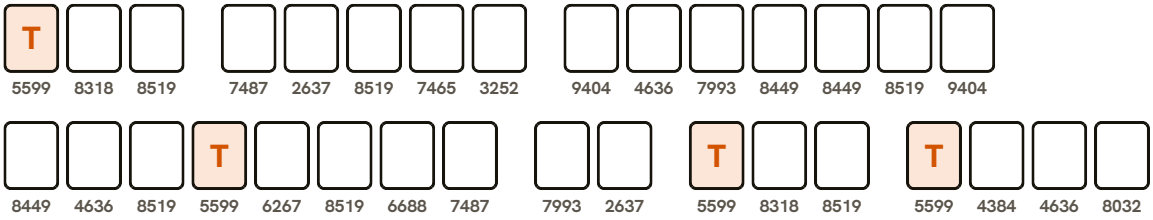
Round 2,255 to the nearest hundred ☐ → O

Scratch space:

CLUE 3 Addition

The stat keeper added up all the practice play totals to find another hint.

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



2478 + 3121 = ☐ → T	2431 + 3836 = ☐ → Z	1481 + 1771 = ☐ → K
2602 + 5716 = ☐ → H	4301 + 3186 = ☐ → S	3004 + 1380 = ☐ → U
5349 + 4055 = ☐ → D	3153 + 3535 = ☐ → L	5035 + 2997 = ☐ → F
5326 + 2667 = ☐ → O	1876 + 2760 = ☐ → R	4194 + 4325 = ☐ → E
3119 + 5330 = ☐ → P	3489 + 3976 = ☐ → A	1193 + 1444 = ☐ → N

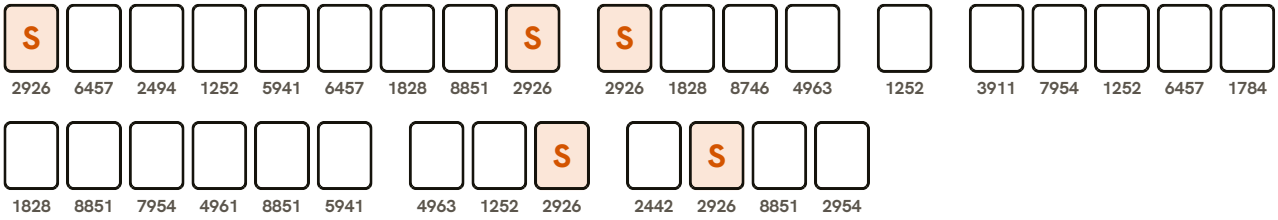
Scratch space:

CLUE 4

Subtraction

The equipment crew subtracted the missing gear count to uncover what was taken.

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



4938 - 2012 = ☐ → S

9613 - 762 = ☐ → E

5117 - 2623 = ☐ → R

4418 - 3166 = ☐ → A

7264 - 2301 = ☐ → W

10750 - 2004 = ☐ → O

3536 - 582 = ☐ → D

6893 - 2982 = ☐ → B

5512 - 3684 = ☐ → H

6714 - 1753 = ☐ → M

12257 - 4303 = ☐ → L

6935 - 478 = ☐ → C

6679 - 738 = ☐ → T

2072 - 288 = ☐ → K

5998 - 3556 = ☐ → U

Scratch space:

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

> The captain divided the drill cones into equal groups to reveal the final answer.

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:

15 ÷ 5 = ☐	14 ÷ 7 = ☐	88 ÷ 11 = ☐	70 ÷ 7 = ☐	12 ÷ 12 = ☐
4 ÷ 1 = ☐	50 ÷ 10 = ☐	18 ÷ 2 = ☐	77 ÷ 11 = ☐	77 ÷ 7 = ☐
48 ÷ 8 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain called a blitz defense, then adjusted a black visor.
2. The villain tried a qb sneak, then strapped a steel mask.
3. The villain threw a deep post, then adjusted a black visor.
4. The villain tried a qb sneak, then laced up gold cleats.
5. The villain ran a screen pass, then pulled on yellow gloves.
6. The villain called a blitz defense, then pulled on yellow gloves.
7. The villain called a blitz defense, then laced up gold cleats.
8. The villain tried a qb sneak, then adjusted a black visor.
9. The villain kicked a field goal, then adjusted a black visor.
10. The villain ran a screen pass, then strapped a steel mask.
11. The villain kicked a field goal, then pulled on yellow gloves.
12. The villain kicked a field goal, then laced up gold cleats.

TEACHER / PARENT

Answer Key

The Case of the Missing Terrible Towel

Culprit: James Harrison

Field Goal · Gold Cleats · Left Handed · Black Helmet · Pretzels

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT WEAR YELLOW GLOVES"

What is the value of the 1 in 8,418? = 10 (T) · What is the value of the 9 in 987? = 900 (L) · What is the value of the 5 in 9,512? = 500 (V) · What is the value of the 2 in 820? = 20 (O) · What is the value of the 5 in 9,053? = 50 (R) · What is the value of the 4 in 4,638? = 4000 (W) · What is the value of the 2 in 2,954? = 2000 (H) · What is the value of the 6 in 6,571? = 6000 (S) · What is the value of the 3 in 4,630? = 30 (N) · What is the value of the 3 in 3,192? = 3000 (G) · What is the value of the 5 in 85,487? = 5000 (I) · What is the value of the 9 in 792? = 90 (A) · What is the value of the 8 in 8,462? = 8000 (D) · What is the value of the 7 in 878? = 70 (E) · What is the value of the 1 in 159? = 100 (Y)

Clue 2 (Rounding): "A LEFT HANDED PRINT WAS ON THE FIELD"

Round 108 to the nearest ten = 110 (A) · Round 2,928 to the nearest hundred = 2900 (N) · Round 696 to the nearest hundred = 700 (D) · Round 4,326 to the nearest hundred = 4300 (R) · Round 202 to the nearest hundred = 200 (F) · Round 22 to the nearest ten = 20 (T) · Round 89 to the nearest ten = 90 (I) · Round 289 to the nearest ten = 290 (H) · Round 1,707 to the nearest hundred = 1700 (E) · Round 369 to the nearest ten = 370 (S) · Round 530 to the nearest hundred = 500 (P) · Round 948 to the nearest hundred = 900 (W) · Round 168 to the nearest ten = 170 (L) · Round 2,255 to the nearest hundred = 2300 (O)

Clue 3 (Addition): "THE SNEAK DROPPED PRETZELS ON THE TURF"

2478 + 3121 = 5599 (T) · 2431 + 3836 = 6267 (Z) · 1481 + 1771 = 3252 (K) · 2602 + 5716 = 8318 (H) · 4301 + 3186 = 7487 (S) · 3004 + 1380 = 4384 (U) · 5349 + 4055 = 9404 (D) · 3153 + 3535 = 6688 (L) · 5035 + 2997 = 8032 (F) · 5326 + 2667 = 7993 (O) · 1876 + 2760 = 4636 (R) · 4194 + 4325 = 8519 (E) · 3119 + 5330 = 8449 (P) · 3489 + 3976 = 7465 (A) · 1193 + 1444 = 2637 (N)

Clue 4 (Subtraction): "SCRATCHES SHOW A BLACK HELMET WAS USED"

4938 - 2012 = 2926 (S) · 9613 - 762 = 8851 (E) · 5117 - 2623 = 2494 (R) · 4418 - 3166 = 1252 (A) · 7264 - 2301 = 4963 (W) · 10750 - 2004 = 8746 (O) · 3536 - 582 = 2954 (D) · 6893 - 2982 = 3911 (B) · 5512 - 3684 = 1828 (H) · 6714 - 1753 = 4961 (M) · 12257 - 4303 = 7954 (L) · 6935 - 478 = 6457 (C) · 6679 - 738 = 5941 (T) · 2072 - 288 = 1784 (K) · 5998 - 3556 = 2442 (U)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → James Harrison

15 ÷ 5 = 3 · 14 ÷ 7 = 2 · 88 ÷ 11 = 8 · 70 ÷ 7 = 10 · 12 ÷ 12 = 1 · 4 ÷ 1 = 4 · 50 ÷ 10 = 5 · 18 ÷ 2 = 9 · 77 ÷ 11 = 7 · 77 ÷ 7 = 11 · 48 ÷ 8 = 6