



The Case of the Missing Match Ball

Grade 5 math · Multiplication, Fractions of a number, Addition, Subtraction, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

An hour before the big final match, someone snuck onto the pitch and snatched the golden game ball! The Head Groundskeeper is in a panic. We need to analyze the clues left behind on the turf to catch the culprit before 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 cleat thief 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	SPECIAL GEAR	DOMINANT FOOT	SWEATBAND COLOR	GREATEST FEAR
Kevin	Rabona Pass	Golden Boots	Left Footed	Blue Headband	Referee Whistles
Bukayo	Rabona Pass	Golden Boots	Left Footed	Blue Headband	Squeaky Turf
Sam	Bicycle Kick	Super Grip Socks	Right Footed	Blue Headband	Referee Whistles
Luka	Rainbow Flick	Magnetic Shin Guards	Left Footed	Blue Headband	Referee Whistles
Erling	Stepover Dribble	Magnetic Shin Guards	Left Footed	Red Sweatband	Referee Whistles
Kylian	Knuckleball Shot	Golden Boots	Left Footed	Blue Headband	Squeaky Turf
Harry	Rainbow Flick	GPS Tracker Watch	Left Footed	Red Sweatband	Squeaky Turf
Chloe	Rainbow Flick	GPS Tracker Watch	Left Footed	Neon Yellow Band	Bright Floodlights
Jack	Stepover Dribble	GPS Tracker Watch	Left Footed	Blue Headband	Squeaky Turf
Antoine	Stepover Dribble	Super Grip Socks	Right Footed	Red Sweatband	Bright Floodlights
Neymar	Knuckleball Shot	Golden Boots	Right Footed	Blue Headband	Referee Whistles
Virgil	Bicycle Kick	Magnetic Shin Guards	Right Footed	Red Sweatband	Squeaky Turf
Cristiano	Stepover Dribble	Super Grip Socks	Left Footed	Blue Headband	Squeaky Turf
Rose	Bicycle Kick	Super Grip Socks	Left Footed	Red Sweatband	Referee Whistles
Bruno	Rainbow Flick	Golden Boots	Right Footed	Blue Headband	Referee Whistles
Lucy	Rabona Pass	Magnetic Shin Guards	Left Footed	Blue Headband	Squeaky Turf
Wendie	Rainbow Flick	Magnetic Shin Guards	Right Footed	Red Sweatband	Squeaky Turf
Alex	Knuckleball Shot	Magnetic Shin Guards	Right Footed	Red Sweatband	Squeaky Turf
Sonny	Rabona Pass	GPS Tracker Watch	Right Footed	Blue Headband	Squeaky Turf
Mohamed	Rabona Pass	Laser Visor	Right Footed	Blue Headband	Referee Whistles
Marcus	Rainbow Flick	Super Grip Socks	Left Footed	Red Sweatband	Squeaky Turf

CLUE 1
Multiplication facts (1-12)

The ground crew left training cones out in equal rows on the practice field. Let's multiply the rows by the columns to count how many cones we have to clear to find our first clue.

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

T																	
55	90	99	96	1	96	54	99	48	55	90	45	96	64	88			
					T												
70	45	6	64	99	55	84	48	96	90	84	64	6	1	45	108	3	96

$5 \times 11 = \square \rightarrow$ T	$1 \times 3 = \square \rightarrow$ D	$1 \times 1 = \square \rightarrow$ U
$12 \times 7 = \square \rightarrow$ I	$5 \times 9 = \square \rightarrow$ A	$12 \times 9 = \square \rightarrow$ R
$8 \times 8 = \square \rightarrow$ N	$10 \times 7 = \square \rightarrow$ M	$9 \times 10 = \square \rightarrow$ H
$12 \times 8 = \square \rightarrow$ S	$8 \times 11 = \square \rightarrow$ O	$3 \times 2 = \square \rightarrow$ G
$11 \times 9 = \square \rightarrow$ E	$4 \times 12 = \square \rightarrow$ C	$6 \times 9 = \square \rightarrow$ P

Scratch space:

Fractions of a number

We found a shredded diagram of the team playbook in the grass. If we can calculate the exact fraction of the pages that are still intact, we will unlock a crucial hint.

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

Diagram showing two rows of 15 boxes each, representing a 2x15 grid. The top row has 14 empty boxes followed by a box containing the letter 'T'. The bottom row has 14 empty boxes followed by a box containing the letter 'T'. Below each box is a number. The top row numbers are 14, 23, 26, 25, 17, 25, 21, 26, 37, 14, 27, 13, 37, 27, 25, 29, 26, 25, 14. The bottom row numbers are 35, 13, 14, 23, 14, 23, 26, 30, 26, 28, 14, 28, 40, 40, 14.

$2/5$ of 35 = $\rightarrow$ **T**

5/10 of 54 = → **K**

$\frac{1}{4}$ of 92 = $\rightarrow$ **H**

$$3/6 \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{L}}$$

2/6 of 111 = → **C**

$$\frac{1}{8} \text{ of } 136 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$1/6 \text{ of } 78 = \boxed{} \rightarrow \boxed{}$$

$$1/5 \text{ of } 125 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$4/8 \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{P}}$$

2/8 of 160 = →

5/10 of 52 = → **E**

$\frac{1}{6}$ of 174 = $\rightarrow$ **B**

$$2/6 \text{ of } 105 = \boxed{} \rightarrow \boxed{\mathbf{W}}$$

$\frac{1}{5}$ of 140 = $\rightarrow$ **F**

Scratch space:

CLUE 3 Addition

The thief dropped several empty energy gel packets during their getaway. Adding up all the packets found along the touchlines will reveal where the suspect went.

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

T														
7731	2806	6234	5596	9703	4847	4847	2521	9703	3762	5422	2806	2389	3762	5422

							T			
5422	7615	2389	6234	2521	3893	4185	7731	2389	4134	2994

$2529 + 5202 = \square \rightarrow \text{T}$	$1896 + 910 = \square \rightarrow \text{H}$	$2546 + 1216 = \square \rightarrow \text{N}$
$1671 + 3176 = \square \rightarrow \text{L}$	$4026 + 2208 = \square \rightarrow \text{E}$	$1818 + 2075 = \square \rightarrow \text{K}$
$2569 + 1616 = \square \rightarrow \text{Y}$	$5096 + 4607 = \square \rightarrow \text{I}$	$3157 + 2439 = \square \rightarrow \text{V}$
$1760 + 1234 = \square \rightarrow \text{F}$	$2440 + 5175 = \square \rightarrow \text{Q}$	$1654 + 735 = \square \rightarrow \text{U}$
$1394 + 1127 = \square \rightarrow \text{A}$	$1620 + 2514 = \square \rightarrow \text{R}$	$1884 + 3538 = \square \rightarrow \text{S}$

Scratch space:

CLUE 4
Subtraction

A locker room inventory sheet shows some missing equipment. Subtracting the remaining training bibs from our original total will help us crack this next lead.

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

T															
3582	6955	3415	5792	3552	3415	6831	3415	6955	7609	7052	1009	8130	3277	3415	
6955	3415	7609	7052	1009	7609	6831	7052	8256	3562	1009	3415	2584	5792		

$4830 - 1248 = \square \rightarrow \boxed{\text{T}}$

$4114 - 837 = \square \rightarrow \boxed{\text{U}}$

$11843 - 4888 = \square \rightarrow \boxed{\text{H}}$

$4311 - 3302 = \square \rightarrow \boxed{\text{B}}$

$7400 - 348 = \square \rightarrow \boxed{\text{D}}$

$8341 - 211 = \square \rightarrow \boxed{\text{L}}$

$6113 - 321 = \square \rightarrow \boxed{\text{S}}$

$9250 - 2419 = \square \rightarrow \boxed{\text{N}}$

$11369 - 3760 = \square \rightarrow \boxed{\text{A}}$

$4679 - 2095 = \square \rightarrow \boxed{\text{R}}$

$4578 - 1016 = \square \rightarrow \boxed{\text{I}}$

$6732 - 3317 = \square \rightarrow \boxed{\text{E}}$

$7655 - 4103 = \square \rightarrow \boxed{\text{C}}$

$10938 - 2682 = \square \rightarrow \boxed{\text{F}}$

Scratch space:

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

The coach wants to distribute the spare soccer socks evenly among the substitute players. Dividing the socks equally will give us the final digit to solve the mystery.

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:

$90 \div 10 = \boxed{}$

$8 \div 8 = \boxed{}$

$12 \div 3 = \boxed{}$

$32 \div 4 = \boxed{}$

$36 \div 12 = \boxed{}$

$56 \div 8 = \boxed{}$

$55 \div 5 = \boxed{}$

$100 \div 10 = \boxed{}$

$30 \div 6 = \boxed{}$

$96 \div 8 = \boxed{}$

$4 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scrambles the scoreboard controller, then sprints past the corner flag.
2. The villain swipes the gold championship trophy, then leaps over the stadium fence.
3. The villain locks the lockers shut, then leaps over the stadium fence.
4. The villain hides the team mascot uniform, then sprints past the corner flag.
5. The villain swipes the gold championship trophy, then escapes into the gear van.
6. The villain locks the lockers shut, then escapes into the gear van.
7. The villain scrambles the scoreboard controller, then trips over a training cone.
8. The villain swipes the gold championship trophy, then sprints past the corner flag.
9. The villain locks the lockers shut, then trips over a training cone.
10. The villain scrambles the scoreboard controller, then dashes into the team dugouts.
11. The villain swipes the gold championship trophy, then trips over a training cone.
12. The villain hides the team mascot uniform, then escapes into the gear van.

Answer Key

The Case of the Missing Match Ball

Culprit: Cristiano

Stepover Dribble · Super Grip Socks · Left Footed · Blue Headband · Squeaky Turf

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SUSPECT HAS NO MAGNETIC SHIN GUARDS"

$5 \times 11 = 55$ (T) · $1 \times 3 = 3$ (D) · $1 \times 1 = 1$ (U) · $12 \times 7 = 84$ (I) · $5 \times 9 = 45$ (A) · $12 \times 9 = 108$ (R) · $8 \times 8 = 64$ (N) · $10 \times 7 = 70$ (M) · $9 \times 10 = 90$ (H) · $12 \times 8 = 96$ (S) · $8 \times 11 = 88$ (O) · $3 \times 2 = 6$ (G) · $11 \times 9 = 99$ (E) · $4 \times 12 = 48$ (C) · $6 \times 9 = 54$ (P)

Clue 2 (Fractions of a number): "THE SUSPECT KICKS BEST WITH THE LEFT FOOT"

$\frac{2}{5}$ of 35 = 14 (T) · $\frac{5}{10}$ of 54 = 27 (K) · $\frac{1}{4}$ of 92 = 23 (H) · $\frac{3}{6}$ of 60 = 30 (L) · $\frac{2}{6}$ of 111 = 37 (C) · $\frac{1}{8}$ of 136 = 17 (U) · $\frac{1}{6}$ of 78 = 13 (I) · $\frac{1}{5}$ of 125 = 25 (S) · $\frac{4}{8}$ of 42 = 21 (P) · $\frac{2}{8}$ of 160 = 40 (O) · $\frac{5}{10}$ of 52 = 26 (E) · $\frac{1}{6}$ of 174 = 29 (B) · $\frac{2}{6}$ of 105 = 35 (W) · $\frac{1}{5}$ of 140 = 28 (F)

Clue 3 (Addition): "THE VILLAIN SHUNS SQUEAKY TURF"

$2529 + 5202 = 7731$ (T) · $1896 + 910 = 2806$ (H) · $2546 + 1216 = 3762$ (N) · $1671 + 3176 = 4847$ (L) · $4026 + 2208 = 6234$ (E) · $1818 + 2075 = 3893$ (K) · $2569 + 1616 = 4185$ (Y) · $5096 + 4607 = 9703$ (I) · $3157 + 2439 = 5596$ (V) · $1760 + 1234 = 2994$ (F) · $2440 + 5175 = 7615$ (Q) · $1654 + 735 = 2389$ (U) · $1394 + 1127 = 2521$ (A) · $1620 + 2514 = 4134$ (R) · $1884 + 3538 = 5422$ (S)

Clue 4 (Subtraction): "THE SCENE HAD BLUE HEADBAND FIBERS"

$4830 - 1248 = 3582$ (T) · $4114 - 837 = 3277$ (U) · $11843 - 4888 = 6955$ (H) · $4311 - 3302 = 1009$ (B) · $7400 - 348 = 7052$ (D) · $8341 - 211 = 8130$ (L) · $6113 - 321 = 5792$ (S) · $9250 - 2419 = 6831$ (N) · $11369 - 3760 = 7609$ (A) · $4679 - 2095 = 2584$ (R) · $4578 - 1016 = 3562$ (I) · $6732 - 3317 = 3415$ (E) · $7655 - 4103 = 3552$ (C) · $10938 - 2682 = 8256$ (F)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Cristiano

$90 \div 10 = 9$ · $8 \div 8 = 1$ · $12 \div 3 = 4$ · $32 \div 4 = 8$ · $36 \div 12 = 3$ · $56 \div 8 = 7$ · $55 \div 5 = 11$ · $100 \div 10 = 10$ · $30 \div 6 = 5$ · $96 \div 8 = 12$ · $4 \div 2 = 2$