



The Case of the Missing Golden Boot

Grade 7 math · Addition, Word problems, Bar models, Integers, Two-step equations · Reading level grades 5-6

Detective: _____ Date: _____

Just hours before the championship final, the pristine Golden Boot trophy vanished from the display case! Detective Coach Sam needs your math skills to narrow down the suspects 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 Trophy 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	GEAR PIECE	DOMINANT FOOT	HAIRSTYLE	DISTRACTION
Marta Vieira	curve shot	captain armband	left footed	spiky hair	squeaky whistle
Bruno Fernandes	slide tackle	captain armband	left footed	curly hair	yellow card
Vinicius Jr	slide tackle	neon cleats	left footed	curly hair	yellow card
Cristiano Ronaldo	slide tackle	captain armband	left footed	spiky hair	yellow card
Harry Kane	power header	captain armband	left footed	curly hair	squeaky whistle
Sam Kerr	power header	neon cleats	left footed	curly hair	squeaky whistle
Antoine Griezmann	curve shot	padded gloves	left footed	curly hair	squeaky whistle
Mohamed Salah	curve shot	neon cleats	right footed	curly hair	squeaky whistle
Alphonso Davies	power header	neon cleats	right footed	buzzed hair	yellow card
Bukayo Saka	curve shot	neon cleats	left footed	curly hair	orange slices
Jude Bellingham	slide tackle	neon cleats	right footed	spiky hair	yellow card
Luka Modric	slide tackle	whistle lanyard	left footed	curly hair	squeaky whistle
Alex Morgan	slide tackle	striped socks	left footed	curly hair	yellow card
Megan Rapinoe	slide tackle	whistle lanyard	left footed	spiky hair	yellow card
Marcus Rashford	curve shot	captain armband	left footed	buzzed hair	squeaky whistle
Kevin De Bruyne	bicycle kick	whistle lanyard	left footed	spiky hair	yellow card
Erling Haaland	slide tackle	whistle lanyard	right footed	spiky hair	squeaky whistle
Lionel Messi	bicycle kick	padded gloves	left footed	curly hair	squeaky whistle
Neymar Jr	bicycle kick	neon cleats	left footed	curly hair	yellow card
Kylian Mbappe	diving save	whistle lanyard	right footed	curly hair	yellow card
Pedri Gonzalez	curve shot	captain armband	left footed	spiky hair	orange slices

CLUE 1 **Addition**

The equipment manager counted all the soccer balls gathered on the pitch to verify the game day total.

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

4095 3671 9752 3556 6533 3064 3064 5423 6533 4889 7898 6722 9752 2987 4889 6722 4095

8786 9752 5423 8520 5423 8786 3671 6533 2987 4095 3064 9752 3064 5423 4889 9672 5423 8520 7898

$1603 + 2492 = \boxed{} \rightarrow \boxed{\text{T}}$

$$3446 + 3087 = \boxed{} \rightarrow \boxed{} \mid$$

$5767 + 3905 = \boxed{} \rightarrow \boxed{\text{Y}}$

$$2204 + 4518 = \boxed{} \rightarrow \boxed{\mathbf{0}}$$

$1659 + 3764 = \boxed{} \rightarrow \boxed{\text{A}}$

$$1900 + 1087 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$$6262 + 3490 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$3352 + 1537 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$1366 + 2305 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$4018 + 3880 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$1762 + 1794 = \boxed{} \rightarrow \boxed{\mathbf{v}}$$

$$5479 + 3041 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$3841 + 4945 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$1949 + 1115 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 2

Word problems

Detective Coach Sam listened as players shared their training routines and gear counts from the bench.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

L									
118	89	45	113	45	47	47	113	89	64

Coach Sam found 80 shin guards yesterday and 38 more today. How many shin guards in all?

Answer: → **L**

Coach Sam found 43 water bottles yesterday and 4 more today. How many water bottles in all?

Answer: → **O**

There were 87 scouting charts. 23 were used up. How many scouting charts are left?

Answer: → **D**

Coach Sam found 19 pylon cones yesterday and 26 more today. How many pylon cones in all?

Answer: → **F**

Coach Sam found 10 soccer balls yesterday and 79 more today. How many soccer balls in all?

Answer: → **E**

Coach Sam found 25 shin guards yesterday and 88 more today. How many shin guards in all?

Answer: → **T**

Scratch space:

CLUE 3

Bar model word problems

The stadium analyst drew comparison bars to compare team stats and track down movement around the locker rooms.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

S

W
H
I
S
T
L

 .

49 64 50 43 122 40 110 49 43

Coach Sam has 196 soccer balls, packed 4 to a bag. How many bags can be filled?

draw a bar model

Answer: → S

Coach Sam has 80 scouting charts, packed 2 to a bag. How many bags can be filled?

draw a bar model

Answer: → K

Coach Sam shares 172 soccer balls equally among 4 teams. How many soccer balls does each team get?

draw a bar model

Answer: → E

Coach Sam used $\frac{1}{2}$ of the shin guards on the first day. The other 55 shin guards were used the next day. How many shin guards were there in all?

draw a bar model

Answer: → Y

There were 161 pylon cones in all. 39 pylon cones were used. How many pylon cones are left?

draw a bar model

Answer: → A

Coach Sam shares 200 water bottles equally among 4 teams. How many water bottles does each team get?

draw a bar model

Answer: → U

Coach Sam has 192 soccer balls, packed 3 to a bag. How many bags can be filled?

draw a bar model

Answer: → Q

CLUE 4 Integers

The assistant referee checked thermal sensors that recorded freezing temperatures and heat spikes in the tunnel.

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

C																				
16	8	30	25	28	2	18	15	30	12	22	30	18	26	5	12	21	17	30	17	
25	17	24	22	26	17	18	30	22	2	17	25	7	C							

$(-2) + 18 = \square \rightarrow \text{C}$	$13 - (-15) = \square \rightarrow \text{Y}$	$9 - (-13) = \square \rightarrow \text{T}$
$(-15) + 23 = \square \rightarrow \text{U}$	$(-13) + 15 = \square \rightarrow \text{H}$	$18 - (-5) = \square \rightarrow \text{K}$
$18 - (-12) = \square \rightarrow \text{R}$	$(-9) + 27 = \square \rightarrow \text{A}$	$(-13) + 18 = \square \rightarrow \text{D}$
$(-11) + 18 = \square \rightarrow \text{O}$	$(-9) + 26 = \square \rightarrow \text{E}$	$(-5) + 30 = \square \rightarrow \text{L}$
$14 - (-1) = \square \rightarrow \text{I}$	$(-14) + 26 = \square \rightarrow \text{S}$	$15 - (-11) = \square \rightarrow \text{N}$
$(-15) + 39 = \square \rightarrow \text{F}$	$(-2) + 23 = \square \rightarrow \text{W}$	

Scratch space:

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

The security guard calculated missing security badges using a formula based on double shifts and bonus hours.

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:

$3x + 3 = 30, x = \boxed{}$

$3x + 8 = 23, x = \boxed{}$

$4x + 2 = 14, x = \boxed{}$

$2x + 12 = 14, x = \boxed{}$

$3x + 4 = 10, x = \boxed{}$

$2x + 2 = 26, x = \boxed{}$

$5x + 5 = 35, x = \boxed{}$

$5x + 6 = 61, x = \boxed{}$

$3x + 9 = 33, x = \boxed{}$

$4x + 1 = 29, x = \boxed{}$

$2x + 3 = 11, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain executed a curve shot, then flashed a captain armband.
2. The villain executed a curve shot, then adjusted neon cleats.
3. The villain executed a curve shot, then strapped on padded gloves.
4. The villain made a slide tackle, then flashed a captain armband.
5. The villain landed a power header, then flashed a captain armband.
6. The villain scored a bicycle kick, then adjusted neon cleats.
7. The villain made a slide tackle, then pulled up striped socks.
8. The villain made a slide tackle, then swung a whistle lanyard.
9. The villain landed a power header, then adjusted neon cleats.
10. The villain scored a bicycle kick, then strapped on padded gloves.
11. The villain executed a curve shot, then swung a whistle lanyard.
12. The villain pulled off a diving save, then flashed a captain armband.

Answer Key

The Case of the Missing Golden Boot

Culprit: Lionel Messi

bicycle kick · padded gloves · left footed · curly hair · squeaky whistle

Trail: Start 21 → Clue 1 16 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT WEAR A WHISTLE LANYARD"

$1603 + 2492 = 4095$ (T) · $3446 + 3087 = 6533$ (I) · $5767 + 3905 = 9672$ (Y) · $2204 + 4518 = 6722$ (O) · $1659 + 3764 = 5423$ (A) · $1900 + 1087 = 2987$ (S) · $6262 + 3490 = 9752$ (E) · $3352 + 1537 = 4889$ (N) · $1366 + 2305 = 3671$ (H) · $4018 + 3880 = 7898$ (D) · $1762 + 1794 = 3556$ (V) · $5479 + 3041 = 8520$ (R) · $3841 + 4945 = 8786$ (W) · $1949 + 1115 = 3064$ (L)

Clue 2 (Word problems): "LEFT FOOTED"

Coach Sam found 80 shin guards yesterday and 38 more today. How many shin guards in all? = 118 (L) · Coach Sam found 43 water bottles yesterday and 4 more today. How many water bottles in all? = 47 (O) · There were 87 scouting charts. 23 were used up. How many scouting charts are left? = 64 (D) · Coach Sam found 19 pylon cones yesterday and 26 more today. How many pylon cones in all? = 45 (F) · Coach Sam found 10 soccer balls yesterday and 79 more today. How many soccer balls in all? = 89 (E) · Coach Sam found 25 shin guards yesterday and 88 more today. How many shin guards in all? = 113 (T)

Clue 3 (Bar model word problems): "SQUEAKY WHISTLE"

Coach Sam has 196 soccer balls, packed 4 to a bag. How many bags can be filled? = 49 (S) · Coach Sam has 80 scouting charts, packed 2 to a bag. How many bags can be filled? = 40 (K) · Coach Sam shares 172 soccer balls equally among 4 teams. How many soccer balls does each team get? = 43 (E) · Coach Sam used $\frac{1}{2}$ of the shin guards on the first day. The other 55 shin guards were used the next day. How many shin guards were there in all? = 110 (Y) · There were 161 pylon cones in all. 39 pylon cones were used. How many pylon cones are left? = 122 (A) · Coach Sam shares 200 water bottles equally among 4 teams. How many water bottles does each team get? = 50 (U) · Coach Sam has 192 soccer balls, packed 3 to a bag. How many bags can be filled? = 64 (Q)

Clue 4 (Integers): "CURLY HAIR STRANDS WERE LEFT NEAR THE LOCKER"

$(-2) + 18 = 16$ (C) · $13 - (-15) = 28$ (Y) · $9 - (-13) = 22$ (T) · $(-15) + 23 = 8$ (U) · $(-13) + 15 = 2$ (H) · $18 - (-5) = 23$ (K) · $18 - (-12) = 30$ (R) · $(-9) + 27 = 18$ (A) · $(-13) + 18 = 5$ (D) · $(-11) + 18 = 7$ (O) · $(-9) + 26 = 17$ (E) · $(-5) + 30 = 25$ (L) · $14 - (-1) = 15$ (I) · $(-14) + 26 = 12$ (S) · $15 - (-11) = 26$ (N) · $(-15) + 39 = 24$ (F) · $(-2) + 23 = 21$ (W)

Clue 5 (Two-step equations): surviving statement is box 10 → Lionel Messi

$3x + 3 = 30$, $x = 9$ · $3x + 8 = 23$, $x = 5$ · $4x + 2 = 14$, $x = 3$ · $2x + 12 = 14$, $x = 1$ · $3x + 4 = 10$, $x = 2$ · $2x + 2 = 26$, $x = 12$ · $5x + 5 = 35$, $x = 6$ · $5x + 6 = 61$, $x = 11$ · $3x + 9 = 33$, $x = 8$ · $4x + 1 = 29$, $x = 7$ · $2x + 3 = 11$, $x = 4$