The Case of the Missing Golden Trophy

Grade 5 math · Multiplication, Rounding, Bar models, Place value, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Just hours before the championship match, someone sneaked into River City Stadium and snatched the Golden Trophy right out of the display case! The culprit left behind subtle traces around the pitch and locker rooms. Coach Vance and the River City Strikers need your math skills to review the evidence and unmask 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 stadium thief is _____

Possible suspects

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

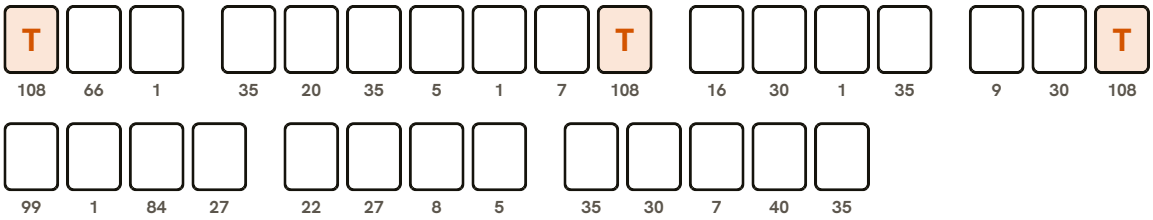
NAME	PRIMARY SKILL	SPECIAL GEAR	KICKING FOOT	HAIRSTYLE	VULNERABILITY
Kylian Mbappe	Curved Free Kick	Shin Guards	Left Footed	Spiky Mohawk	Wet Pitch
Declan Rice	Power Header	Grip Socks	Right Footed	Spiky Mohawk	Loud Horns
Christian Pulisic	Speed Dribble	Padded Gloves	Right Footed	Spiky Mohawk	Wet Pitch
Megan Rapinoe	Speed Dribble	Glow Cleats	Left Footed	Spiky Mohawk	Wet Pitch
Marcus Rashford	Slide Tackle	Shin Guards	Left Footed	Spiky Mohawk	Yellow Cards
Jude Bellingham	Slide Tackle	Glow Cleats	Left Footed	Spiky Mohawk	Loud Horns
Jamal Musiala	Slide Tackle	Shin Guards	Left Footed	Braided Ponytail	Loud Horns
Lionel Messi	Bicycle Kick	GPS Tracker	Right Footed	Spiky Mohawk	Wet Pitch
Bukayo Saka	Bicycle Kick	Grip Socks	Left Footed	Spiky Mohawk	Wet Pitch
Sergio Ramos	Speed Dribble	Shin Guards	Left Footed	Spiky Mohawk	Loud Horns
Kevin De Bruyne	Slide Tackle	GPS Tracker	Left Footed	Braided Ponytail	Wet Pitch
Marta Silva	Bicycle Kick	Padded Gloves	Left Footed	Spiky Mohawk	Loud Horns
Aitana Bonmati	Curved Free Kick	Grip Socks	Left Footed	Spiky Mohawk	Wet Pitch
Erling Haaland	Power Header	GPS Tracker	Left Footed	Curly Top	Wet Pitch
Leah Williamson	Slide Tackle	Glow Cleats	Left Footed	Braided Ponytail	Yellow Cards
Phil Foden	Bicycle Kick	Padded Gloves	Left Footed	Spiky Mohawk	Wet Pitch
Sam Kerr	Speed Dribble	Glow Cleats	Right Footed	Spiky Mohawk	Yellow Cards
Cole Palmer	Power Header	Padded Gloves	Right Footed	Spiky Mohawk	Loud Horns
Pedri Gonzalez	Curved Free Kick	GPS Tracker	Left Footed	Spiky Mohawk	Wet Pitch
Bruno Fernandes	Slide Tackle	Glow Cleats	Right Footed	Curly Top	Wet Pitch
Trinity Rodman	Speed Dribble	Shin Guards	Right Footed	Braided Ponytail	Wet Pitch

make your own at mathcrackers.com

CLUE 1 Multiplication facts (1-12)

> Coach Vance counted equal rows of practice gear on the pitch to figure out how many items went missing after warmups.

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



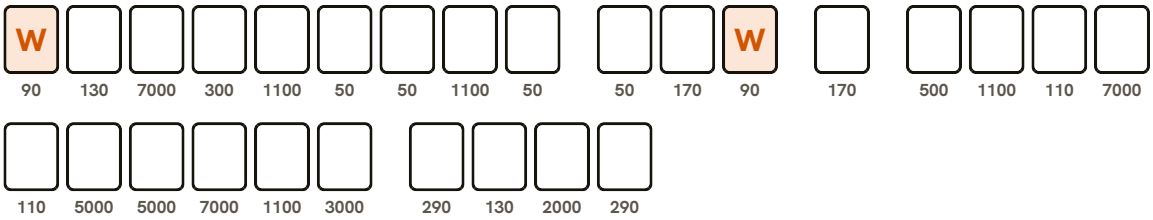
12 × 9 = ☐ → T	2 × 4 = ☐ → I	2 × 11 = ☐ → G
11 × 6 = ☐ → H	1 × 5 = ☐ → P	10 × 3 = ☐ → O
1 × 1 = ☐ → E	5 × 7 = ☐ → S	11 × 9 = ☐ → W
1 × 7 = ☐ → C		
3 × 3 = ☐ → N	4 × 5 = ☐ → U	3 × 9 = ☐ → R
4 × 4 = ☐ → D		
7 × 12 = ☐ → A	4 × 10 = ☐ → K	

Scratch space:

CLUE 2 Rounding

> The stadium scoreboard displayed rounded fan attendance numbers to give detectives a fast estimate of spectators in the west stands.

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



Round 86 to the nearest ten ☐ → **W**

Round 3,325 to the nearest thousand ☐ → **D**

Round 129 to the nearest ten ☐ → **I**

Round 288 to the nearest ten ☐ → **K**

Round 2,351 to the nearest thousand ☐ → **C**

Round 287 to the nearest hundred ☐ → **N**

Round 50 to the nearest ten ☐ → **S**

Round 110 to the nearest ten ☐ → **F**

Round 1,112 to the nearest hundred ☐ → **E**

Round 172 to the nearest ten ☐ → **A**

Round 6,632 to the nearest thousand ☐ → **T**

Round 4,934 to the nearest thousand ☐ → **O**

Round 475 to the nearest hundred ☐ → **L**

Scratch space:

CLUE 3 Bar model word problems

> Analyzing visual bar models of player sprint speeds helped the team narrow down who could reach the locker room so quickly.

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

W								
89	7	97	59	87	97	57	12	

.

Coach Vance shares 178 agility ladders equally among 2 teams. How many agility ladders does each team get?

draw a bar model

Answer: ☐ → W

There were 105 agility ladders in all. 18 agility ladders were used. How many agility ladders are left?

draw a bar model

Answer: ☐ → I

Coach Vance shares 72 water bottles equally among 6 teams. How many water bottles does each team get?

draw a bar model

Answer: ☐ → H

Coach Vance shares 236 agility ladders equally among 4 teams. How many agility ladders does each team get?

draw a bar model

Answer: ☐ → P

Coach Vance shares 56 training cones equally among 8 teams. How many training cones does each team get?

draw a bar model

Answer: ☐ → E

One group collected 2 water bottles and another group collected 55 water bottles. How many water bottles in all?

draw a bar model

Answer: ☐ → C

The red team has 102 agility ladders and the blue team has 5 agility ladders. How many more agility ladders does the red team have?

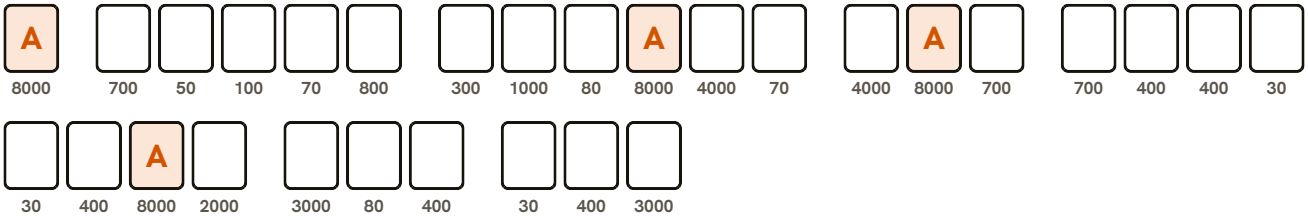
draw a bar model

Answer: ☐ → T

CLUE 4 Place value

> The detective examined the exact digit positions on a locker padlock code left open near the trophy case.

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



What is the value of the 8 in 38,691? ☐ → **A**

What is the value of the 8 in 25,087? ☐ → **H**

What is the value of the 3 in 605,309? ☐ → **M**

What is the value of the 3 in 487,536? ☐ → **N**

What is the value of the 1 in 271,827? ☐ → **O**

What is the value of the 8 in 443,812? ☐ → **Y**

What is the value of the 2 in 72,493? ☐ → **R**

What is the value of the 4 in 554,520? ☐ → **W**

What is the value of the 4 in 966,410? ☐ → **E**

What is the value of the 3 in 673,628? ☐ → **T**

What is the value of the 7 in 24,798? ☐ → **S**

What is the value of the 1 in 23,106? ☐ → **I**

What is the value of the 5 in 68,159? ☐ → **P**

What is the value of the 7 in 911,076? ☐ → **K**

Scratch space:

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

> To split the remaining gear evenly among training groups, the captain divided the total equipment by the number of cones.

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:

50 ÷ 5 = ☐ | 77 ÷ 11 = ☐ | 9 ÷ 9 = ☐ | 40 ÷ 10 = ☐ | 80 ÷ 10 = ☐

15 ÷ 3 = ☐ | 6 ÷ 2 = ☐ | 33 ÷ 3 = ☐ | 63 ÷ 7 = ☐ | 48 ÷ 4 = ☐

20 ÷ 10 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain bent a shot around the defensive wall, then checked a wrist GPS tracker during the escape.
2. The villain sprinted down the sideline at top speed, then adjusted heavy padded gloves on the way out.
3. The villain sprinted down the sideline at top speed, then snapped lightweight shin guards into place.
4. The villain executed a perfect acrobatic bicycle kick, then tightened high performance grip socks.
5. The villain bent a shot around the defensive wall, then tightened high performance grip socks.
6. The villain executed a perfect acrobatic bicycle kick, then adjusted heavy padded gloves on the way out.
7. The villain bent a shot around the defensive wall, then snapped lightweight shin guards into place.
8. The villain executed a perfect acrobatic bicycle kick, then flashed bright glow cleats while sprinting away.
9. The villain bent a shot around the defensive wall, then flashed bright glow cleats while sprinting away.
10. The villain sprinted down the sideline at top speed, then flashed bright glow cleats while sprinting away.
11. The villain leaped high to power a header past the keeper, then adjusted heavy padded gloves on the way out.
12. The villain executed a perfect acrobatic bicycle kick, then checked a wrist GPS tracker during the escape.

TEACHER / PARENT

Answer Key

The Case of the Missing Golden Trophy

Culprit: Phil Foden

Bicycle Kick · Padded Gloves · Left Footed · Spiky Mohawk · Wet Pitch

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SUSPECT DOES NOT WEAR GRIP SOCKS"

12 × 9 = 108 (T) · 2 × 4 = 8 (I) · 2 × 11 = 22 (G) · 11 × 6 = 66 (H) · 1 × 5 = 5 (P) · 10 × 3 = 30 (O) · 1 × 1 = 1 (E) · 5 × 7 = 35 (S) · 11 × 9 = 99 (W) · 1 × 7 = 7 (C) · 3 × 3 = 9 (N) · 4 × 5 = 20 (U) · 3 × 9 = 27 (R) · 4 × 4 = 16 (D) · 7 × 12 = 84 (A) · 4 × 10 = 40 (K)

Clue 2 (Rounding): "WITNESSES SAW A LEFT FOOTED KICK"

Round 86 to the nearest ten = 90 (W) · Round 3,325 to the nearest thousand = 3000 (D) · Round 129 to the nearest ten = 130 (I) · Round 288 to the nearest ten = 290 (K) · Round 2,351 to the nearest thousand = 2000 (C) · Round 287 to the nearest hundred = 300 (N) · Round 50 to the nearest ten = 50 (S) · Round 110 to the nearest ten = 110 (F) · Round 1,112 to the nearest hundred = 1100 (E) · Round 172 to the nearest ten = 170 (A) · Round 6,632 to the nearest thousand = 7000 (T) · Round 4,934 to the nearest thousand = 5000 (O) · Round 475 to the nearest hundred = 500 (L)

Clue 3 (Bar model word problems): "WET PITCH"

Coach Vance shares 178 agility ladders equally among 2 teams. How many agility ladders does each team get? = 89 (W) · There were 105 agility ladders in all. 18 agility ladders were used. How many agility ladders are left? = 87 (I) · Coach Vance shares 72 water bottles equally among 6 teams. How many water bottles does each team get? = 12 (H) · Coach Vance shares 236 agility ladders equally among 4 teams. How many agility ladders does each team get? = 59 (P) · Coach Vance shares 56 training cones equally among 8 teams. How many training cones does each team get? = 7 (E) · One group collected 2 water bottles and another group collected 55 water bottles. How many water bottles in all? = 57 (C) · The red team has 102 agility ladders and the blue team has 5 agility ladders. How many more agility ladders does the red team have? = 97 (T)

Clue 4 (Place value): "A SPIKY MOHAWK WAS SEEN NEAR THE NET"

What is the value of the 8 in 38,691? = 8000 (A) · What is the value of the 8 in 25,087? = 80 (H) · What is the value of the 3 in 605,309? = 300 (M) · What is the value of the 3 in 487,536? = 30 (N) · What is the value of the 1 in 271,827? = 1000 (O) · What is the value of the 8 in 443,812? = 800 (Y) · What is the value of the 2 in 72,493? = 2000 (R) · What is the value of the 4 in 554,520? = 4000 (W) · What is the value of the 4 in 966,410? = 400 (E) · What is the value of the 3 in 673,628? = 3000 (T) · What is the value of the 7 in 24,798? = 700 (S) · What is the value of the 1 in 23,106? = 100 (I) · What is the value of the 5 in 68,159? = 50 (P) · What is the value of the 7 in 911,076? = 70 (K)

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

50 ÷ 5 = 10 · 77 ÷ 11 = 7 · 9 ÷ 9 = 1 · 40 ÷ 10 = 4 · 80 ÷ 10 = 8 · 15 ÷ 3 = 5 · 6 ÷ 2 = 3 · 33 ÷ 3 = 11 · 63 ÷ 7 = 9 · 48 ÷ 4 = 12 · 20 ÷ 10 = 2