



# The Championship Ball Mystery

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

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

The golden championship ball has vanished from the trophy case right before the big kickoff! The Turf Phantom is hiding among the players. Help us track down the thief and save the tournament!

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 Turf Phantom 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 | LUCKY GEAR     | KICKING FOOT | HAIRSTYLE | MATCH THREAT  |
|--------------------|----------------|----------------|--------------|-----------|---------------|
| Robert Lewandowski | Power Shot     | Radar Watch    | Left Footed  | Neon Dye  | Loud Whistles |
| Neymar Jr          | Speed Dribble  | Shiny Medal    | Right Footed | Neon Dye  | Wet Turf      |
| Alisson Becker     | Curved Pass    | Laser Cleats   | Left Footed  | Neon Dye  | Wet Turf      |
| Bruno Fernandes    | Power Shot     | Laser Cleats   | Left Footed  | Neon Dye  | Loud Whistles |
| Alex Morgan        | Power Shot     | Laser Cleats   | Right Footed | Neon Dye  | Loud Whistles |
| Son Heungmin       | Curved Pass    | Laser Cleats   | Right Footed | Mohawk    | Loud Whistles |
| Lionel Messi       | Super Header   | Golden Whistle | Right Footed | Neon Dye  | Yellow Cards  |
| Mo Salah           | Super Header   | Sticky Gloves  | Right Footed | Neon Dye  | Wet Turf      |
| Jude Bellingham    | Power Shot     | Shiny Medal    | Left Footed  | Neon Dye  | Yellow Cards  |
| Luis Diaz          | Super Header   | Golden Whistle | Right Footed | Neon Dye  | Wet Turf      |
| Jack Grealish      | Super Header   | Sticky Gloves  | Left Footed  | Neon Dye  | Wet Turf      |
| Sam Kerr           | Wall Block     | Golden Whistle | Right Footed | Neon Dye  | Wet Turf      |
| Marcus Rashford    | Power Shot     | Golden Whistle | Left Footed  | Ponytail  | Yellow Cards  |
| Erling Haaland     | Wall Block     | Sticky Gloves  | Left Footed  | Ponytail  | Yellow Cards  |
| Kevin De Bruyne    | Wall Block     | Laser Cleats   | Right Footed | Mohawk    | Wet Turf      |
| Kylian Mbappe      | Wall Block     | Shiny Medal    | Left Footed  | Mohawk    | Yellow Cards  |
| Bukayo Saka        | Super Header   | Radar Watch    | Left Footed  | Mohawk    | Wet Turf      |
| Harry Kane         | Wall Block     | Sticky Gloves  | Right Footed | Neon Dye  | Wet Turf      |
| Christian Pulisic  | Speed Dribble  | Shiny Medal    | Left Footed  | Neon Dye  | Loud Whistles |
| Megan Rapinoe      | Super Header   | Sticky Gloves  | Left Footed  | Ponytail  | Loud Whistles |
| Luka Modric        | Super Header   | Shiny Medal    | Right Footed | Mohawk    | Loud Whistles |

## CLUE 1

## Multiplication facts (1-12)

We count the rows of soccer balls sitting on the racks. If we multiply the rows by the balls in each row, we unlock the locker room camera feed.

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

|     |   |     |     |    |     |    |    |     |    |     |    |    |     |     |
|-----|---|-----|-----|----|-----|----|----|-----|----|-----|----|----|-----|-----|
| N   |   |     |     |    | N   |    |    |     |    |     |    |    |     |     |
| 100 | 4 | 121 | 108 | 96 | 100 | 90 | 84 | 45  | 88 | 44  | 42 | 40 | 44  | 121 |
|     |   |     | N   |    |     |    |    |     |    |     |    | N  |     |     |
| 28  | 4 | 3   | 100 | 88 | 44  | 9  | 9  | 108 | 45 | 121 | 54 | 45 | 100 | 45  |

$10 \times 10 = \square \rightarrow \boxed{\text{N}}$

$3 \times 3 = \square \rightarrow \boxed{\text{T}}$

$12 \times 8 = \square \rightarrow \boxed{\text{I}}$

$12 \times 9 = \square \rightarrow \boxed{\text{H}}$

$4 \times 7 = \square \rightarrow \boxed{\text{F}}$

$9 \times 6 = \square \rightarrow \boxed{\text{C}}$

$11 \times 8 = \square \rightarrow \boxed{\text{D}}$

$7 \times 12 = \square \rightarrow \boxed{\text{M}}$

$3 \times 1 = \square \rightarrow \boxed{\text{U}}$

$8 \times 5 = \square \rightarrow \boxed{\text{W}}$

$11 \times 11 = \square \rightarrow \boxed{\text{S}}$

$5 \times 9 = \square \rightarrow \boxed{\text{E}}$

$4 \times 11 = \square \rightarrow \boxed{\text{A}}$

$6 \times 7 = \square \rightarrow \boxed{\text{L}}$

$10 \times 9 = \square \rightarrow \boxed{\text{Y}}$

$4 \times 1 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

## CLUE 2

The stadium scoreboard shows a secret code. We need to find the digit in the hundreds place to unlock the next clue about the thief.

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

Diagram illustrating a sequence of numbers and their corresponding 'true' (T) or 'false' (F) status:

| Index | Value | Status |
|-------|-------|--------|
| 1     | 90    | T      |
| 2     | 200   | F      |
| 3     | 70    | F      |
| 4     | 60    | F      |
| 5     | 200   | F      |
| 6     | 40    | F      |
| 7     | 4000  | F      |
| 8     | 90    | T      |
| 9     | 7000  | F      |
| 10    | 10    | F      |
| 11    | 5000  | F      |
| 12    | 30    | F      |
| 13    | 700   | F      |
| 14    | 5000  | F      |
| 15    | 70    | F      |
| 16    | 900   | F      |
| 17    | 90    | T      |
| 18    | 200   | F      |
| 19    | 70    | F      |

  

| Index | Value | Status |
|-------|-------|--------|
| 1     | 6000  | F      |
| 2     | 40    | F      |
| 3     | 20    | F      |
| 4     | 20    | F      |
| 5     | 2000  | F      |
| 6     | 30    | F      |
| 7     | 400   | F      |
| 8     | 200   | F      |
| 9     | 90    | T      |

What is the value of the 9 in 295?  → **T**

What is the value of the 6 in 165?  → **P**

What is the value of the 3 in 8,734?  →

What is the value of the 4 in 9,048?  → **A**

What is the value of the 7 in 4,074?  → **E**

What is the value of the 5 in 75,003?  → **K**

What is the value of the 6 in 6,141?  → **B**

What is the value of the 2 in 827?  → **L**

What is the value of the 4 in 4,827?  → **N**

What is the value of the 4 in 429?  → **G**

What is the value of the 1 in 4,916?  → **M**

What is the value of the 7 in 1,750?  → **C**

What is the value of the 2 in 2,176?  → **R**

What is the value of the 7 in 7,215?  → ☐

What is the value of the 9 in 1,977?  → **D**

What is the value of the 2 in 214?  → **H**

Scratch space:

### CLUE 3 Rounding

The player speed radar can only show speeds rounded to the nearest ten. Rounding the top speed gives us the code to open the stadium gate.

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

|      |     |    |     |     |      |     |      |     |      |      |      |     |     |      |     |     |  |
|------|-----|----|-----|-----|------|-----|------|-----|------|------|------|-----|-----|------|-----|-----|--|
| T    |     |    |     |     |      |     |      | T   |      |      |      |     |     |      |     |     |  |
| 4300 | 300 | 90 | 700 | 300 | 1100 | 430 | 4300 | 500 | 2900 | 7000 | 3000 | 290 | 700 | 7000 | 500 | 430 |  |

  

|     |    |      |      |     |     |      |
|-----|----|------|------|-----|-----|------|
|     |    | T    | T    |     |     |      |
| 200 | 90 | 4300 | 4300 | 230 | 130 | 3700 |

Round 4,337 to the nearest hundred  → **T**

Round 7,353 to the nearest thousand  → **S**

Round 2,942 to the nearest thousand  → **L**

Round 240 to the nearest hundred  → **W**

Round 456 to the nearest hundred  → **O**

Round 432 to the nearest ten  → **N**

Round 653 to the nearest hundred  → **P**

Round 2,870 to the nearest hundred  → **M**

Round 1,102 to the nearest hundred  → **A**

Round 287 to the nearest ten  → **I**

Round 233 to the nearest ten  → **U**

Round 88 to the nearest ten  → **E**

Round 3,702 to the nearest hundred  → **F**

Round 259 to the nearest hundred  → **H**

Round 126 to the nearest ten  → **R**

Scratch space:

## CLUE 4 Addition

We tally up all the orange cones and blue jerseys left on the training field. Adding them together reveals where the phantom went next.

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

|          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>W</b> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 5973     | 9245 | 2670 | 9868 | 3188 | 5680 | 2409 | 5680 | 9245 | 9868 | 5680 | 8667 | 5806 | 9770 | 6893 | 2409 | 9314 | 9245 |
|          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 9868     | 5680 | 5806 | 7307 | 9245 | 6893 | 2716 | 9245 | 9314 |      |      |      |      |      |      |      |      |      |

|                                                |                                                |                                                |
|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| $3503 + 2470 = \square \rightarrow \mathbf{W}$ | $3549 + 2131 = \square \rightarrow \mathbf{N}$ | $6766 + 3102 = \square \rightarrow \mathbf{O}$ |
| $1368 + 1820 = \square \rightarrow \mathbf{U}$ | $3651 + 3656 = \square \rightarrow \mathbf{J}$ | $857 + 1859 = \square \rightarrow \mathbf{S}$  |
| $3158 + 6087 = \square \rightarrow \mathbf{E}$ | $3645 + 5669 = \square \rightarrow \mathbf{Y}$ | $3187 + 5480 = \square \rightarrow \mathbf{H}$ |
| $1368 + 1041 = \square \rightarrow \mathbf{D}$ | $4474 + 5296 = \square \rightarrow \mathbf{I}$ | $3142 + 3751 = \square \rightarrow \mathbf{R}$ |
| $2116 + 3690 = \square \rightarrow \mathbf{A}$ | $1253 + 1417 = \square \rightarrow \mathbf{F}$ |                                                |

Scratch space:

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

The referee needs to share the practice balls equally among the teams. Dividing the balls gives us the final secret code.

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:**

$84 \div 7 = \boxed{\phantom{00}}$

$36 \div 4 = \boxed{\phantom{00}}$

$9 \div 9 = \boxed{\phantom{00}}$

$70 \div 7 = \boxed{\phantom{00}}$

$36 \div 9 = \boxed{\phantom{00}}$

$40 \div 8 = \boxed{\phantom{00}}$

$36 \div 6 = \boxed{\phantom{00}}$

$6 \div 2 = \boxed{\phantom{00}}$

$70 \div 10 = \boxed{\phantom{00}}$

$99 \div 9 = \boxed{\phantom{00}}$

$18 \div 9 = \boxed{\phantom{00}}$

**Step 2 - cross out the sentence with each answer:**

1. The villain leaped high with a super header to reach the trophy, then grabbed the loot with sticky gloves.
2. The villain leaped high with a super header to reach the trophy, then checked the escape route on a radar watch.
3. The villain leaped high with a super header to reach the trophy, then ran away wearing glowing laser cleats.
4. The villain dribbled past the security guards at top speed, then checked the escape route on a radar watch.
5. The villain dribbled past the security guards at top speed, then grabbed the loot with sticky gloves.
6. The villain kicked a power shot through the locker room door, then blew a sharp blast on a golden whistle.
7. The villain curved a spectacular pass over the stadium wall, then checked the escape route on a radar watch.
8. The villain blocked the exit with a massive wall block, then blew a sharp blast on a golden whistle.
9. The villain leaped high with a super header to reach the trophy, then blew a sharp blast on a golden whistle.
10. The villain kicked a power shot through the locker room door, then grabbed the loot with sticky gloves.
11. The villain leaped high with a super header to reach the trophy, then tossed a fake shiny medal to confuse us.
12. The villain blocked the exit with a massive wall block, then grabbed the loot with sticky gloves.

# Answer Key

## The Championship Ball Mystery

### Culprit: Sam Kerr

Wall Block · Golden Whistle · Right Footed · Neon Dye · Wet Turf

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

### Clue 1 (Multiplication facts (1-12)): "NO SHINY MEDAL WAS FOUND AT THE SCENE"

$10 \times 10 = 100$  (N) ·  $3 \times 3 = 9$  (T) ·  $12 \times 8 = 96$  (I) ·  $12 \times 9 = 108$  (H) ·  $4 \times 7 = 28$  (F) ·  $9 \times 6 = 54$  (C) ·  $11 \times 8 = 88$  (D) ·  $7 \times 12 = 84$  (M) ·  $3 \times 1 = 3$  (U) ·  $8 \times 5 = 40$  (W) ·  $11 \times 11 = 121$  (S) ·  $5 \times 9 = 45$  (E) ·  $4 \times 11 = 44$  (A) ·  $6 \times 7 = 42$  (L) ·  $10 \times 9 = 90$  (Y) ·  $4 \times 1 = 4$  (O)

### Clue 2 (Place value): "THE PHANTOM KICKED THE BALL RIGHT"

What is the value of the 9 in 295? = 90 (T) · What is the value of the 6 in 165? = 60 (P) · What is the value of the 3 in 8,734? = 30 (I) · What is the value of the 4 in 9,048? = 40 (A) · What is the value of the 7 in 4,074? = 70 (E) · What is the value of the 5 in 75,003? = 5000 (K) · What is the value of the 6 in 6,141? = 6000 (B) · What is the value of the 2 in 827? = 20 (L) · What is the value of the 4 in 4,827? = 4000 (N) · What is the value of the 4 in 429? = 400 (G) · What is the value of the 1 in 4,916? = 10 (M) · What is the value of the 7 in 1,750? = 700 (C) · What is the value of the 2 in 2,176? = 2000 (R) · What is the value of the 7 in 7,215? = 7000 (O) · What is the value of the 9 in 1,977? = 900 (D) · What is the value of the 2 in 214? = 200 (H)

### Clue 3 (Rounding): "THE PHANTOM SLIPS ON WET TURF"

Round 4,337 to the nearest hundred = 4300 (T) · Round 7,353 to the nearest thousand = 7000 (S) · Round 2,942 to the nearest thousand = 3000 (L) · Round 240 to the nearest hundred = 200 (W) · Round 456 to the nearest hundred = 500 (O) · Round 432 to the nearest ten = 430 (N) · Round 653 to the nearest hundred = 700 (P) · Round 2,870 to the nearest hundred = 2900 (M) · Round 1,102 to the nearest hundred = 1100 (A) · Round 287 to the nearest ten = 290 (I) · Round 233 to the nearest ten = 230 (U) · Round 88 to the nearest ten = 90 (E) · Round 3,702 to the nearest hundred = 3700 (F) · Round 259 to the nearest hundred = 300 (H) · Round 126 to the nearest ten = 130 (R)

### Clue 4 (Addition): "WE FOUND NEON HAIR DYE ON A JERSEY"

$3503 + 2470 = 5973$  (W) ·  $3549 + 2131 = 5680$  (N) ·  $6766 + 3102 = 9868$  (O) ·  $1368 + 1820 = 3188$  (U) ·  $3651 + 3656 = 7307$  (J) ·  $857 + 1859 = 2716$  (S) ·  $3158 + 6087 = 9245$  (E) ·  $3645 + 5669 = 9314$  (Y) ·  $3187 + 5480 = 8667$  (H) ·  $1368 + 1041 = 2409$  (D) ·  $4474 + 5296 = 9770$  (I) ·  $3142 + 3751 = 6893$  (R) ·  $2116 + 3690 = 5806$  (A) ·  $1253 + 1417 = 2670$  (F)

### Clue 5 (Division facts (1-12)): surviving statement is box 8 → Sam Kerr

$84 \div 7 = 12$  ·  $36 \div 4 = 9$  ·  $9 \div 9 = 1$  ·  $70 \div 7 = 10$  ·  $36 \div 9 = 4$  ·  $40 \div 8 = 5$  ·  $36 \div 6 = 6$  ·  $6 \div 2 = 3$  ·  $70 \div 10 = 7$  ·  $99 \div 9 = 11$  ·  $18 \div 9 = 2$