The Case of the Missing Championship Basketball

Grade 10 math · Fractions of a number, Pythagorean theorem, Square roots, Exponents · Reading level grades 5-6

Detective: _____ **Date:** _____

Just minutes before the final buzzer of the season, the gold championship basketball vanished from the center court display trophy case. The referee paused the game, and security sealed all locker room doors. Detective Sam stepped onto the shiny hardwood floor to interview the star players and solve the mystery.

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 championship thief is _____

Possible suspects

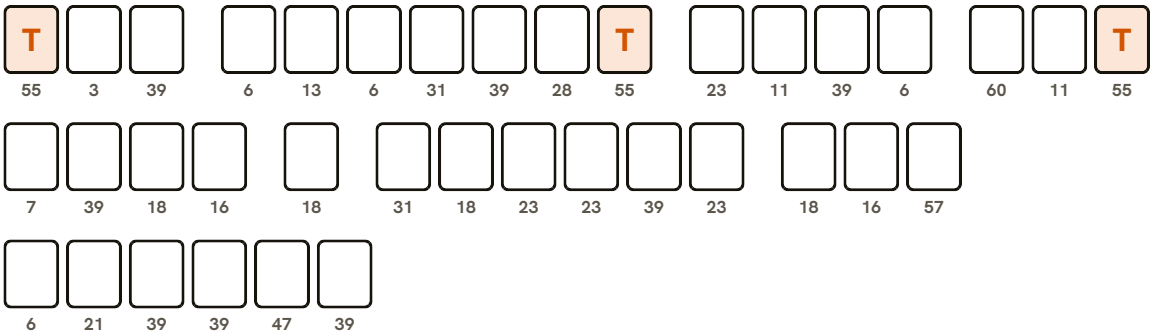
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	SIGNATURE MOVE	FAVORED GEAR	SHOOTING HAND	HAIRSTYLE	COURT DISTRACTION
Giannis Antetokounmpo	Fadeaway	Grip Socks	Right-handed shooter	Afro	Squeaky Shoes
Magic Johnson	Fadeaway	Headband	Right-handed shooter	Buzz Cut	Squeaky Shoes
Steve Nash	Fadeaway	Neon Hightops	Left-handed shooter	Braids	Loud Whistle
Kyrie Irving	Fadeaway	Grip Socks	Left-handed shooter	Buzz Cut	Loud Whistle
Luka Doncic	Nolook Pass	Headband	Left-handed shooter	Braids	Loud Whistle
Tim Duncan	Crossover	Headband	Left-handed shooter	Buzz Cut	Loud Whistle
Michael Jordan	Sky Hook	Padded Arm Sleeve	Right-handed shooter	Buzz Cut	Slippery Floor
Allen Iverson	Crossover	Headband	Right-handed shooter	Braids	Slippery Floor
Nikola Jokic	Crossover	Grip Socks	Left-handed shooter	Braids	Slippery Floor
Anthony Davis	Nolook Pass	Ankle Braces	Right-handed shooter	Buzz Cut	Slippery Floor
Dwyane Wade	Sky Hook	Headband	Left-handed shooter	Braids	Slippery Floor
Damian Lillard	Sky Hook	Neon Hightops	Left-handed shooter	Braids	Loud Whistle
Jayson Tatum	Nolook Pass	Padded Arm Sleeve	Left-handed shooter	Braids	Loud Whistle
Kawhi Leonard	Nolook Pass	Ankle Braces	Right-handed shooter	Braids	Loud Whistle
Larry Bird	Sky Hook	Padded Arm Sleeve	Right-handed shooter	Braids	Slippery Floor
Kobe Bryant	Fadeaway	Headband	Left-handed shooter	Afro	Slippery Floor
Kevin Durant	Fadeaway	Headband	Left-handed shooter	Braids	Loud Whistle
LeBron James	Nolook Pass	Headband	Left-handed shooter	Afro	Loud Whistle
Devin Booker	Nolook Pass	Headband	Left-handed shooter	Braids	Squeaky Shoes
Dirk Nowitzki	Eurostep	Ankle Braces	Right-handed shooter	Braids	Loud Whistle
Charles Barkley	Nolook Pass	Ankle Braces	Right-handed shooter	Buzz Cut	Squeaky Shoes

CLUE 1 Fractions of a number

> The arena manager checked a fraction of the court seats to narrow down where the mystery suspect slipped past security.

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



2/4 of 110 = ☐ → T

2/10 of 105 = ☐ → L

3/6 of 120 = ☐ → N

1/10 of 130 = ☐ → U

6/8 of 24 = ☐ → A

1/5 of 55 = ☐ → O

1/6 of 186 = ☐ → P

4/8 of 6 = ☐ → H

1/2 of 94 = ☐ → V

1/2 of 32 = ☐ → R

3/6 of 14 = ☐ → W

2/10 of 115 = ☐ → D

2/8 of 156 = ☐ → E

4/8 of 114 = ☐ → M

1/4 of 24 = ☐ → S

1/6 of 168 = ☐ → C

Scratch space:

CLUE 2 Pythagorean theorem

Detectives measured the diagonal distance of the suspect's escape path across the court using right triangles.

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

A									A		A													
13	17	5	15	68	10	125	125	125	13	17	13	30	10	26	15									
	A																							
116	13	68	74	10	74	125	116	65	65	15	10	75	30	10	13	111	10							

legs 5 and 12, hypotenuse = ☐ → A

legs 21 and 72, hypotenuse = ☐ → R

legs 36 and 105, hypotenuse = ☐ → V

legs 25 and 60, hypotenuse = ☐ → O

legs 18 and 24, hypotenuse = ☐ → L

legs 24 and 70, hypotenuse = ☐ → D

legs 8 and 15, hypotenuse = ☐ → W

legs 9 and 12, hypotenuse = ☐ → T

legs 35 and 120, hypotenuse = ☐ → S

legs 10 and 24, hypotenuse = ☐ → F

legs 80 and 84, hypotenuse = ☐ → H

legs 6 and 8, hypotenuse = ☐ → E

legs 3 and 4, hypotenuse = ☐ → I

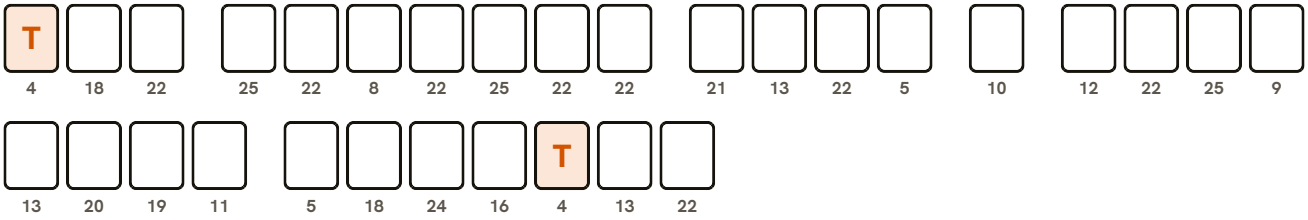
legs 32 and 60, hypotenuse = ☐ → N

Scratch space:

CLUE 3 Square roots

The security team calculated the side lengths of the square storage room to locate a hidden piece of evidence.

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



sqrt(16) = ☐ → T

sqrt(121) = ☐ → D

sqrt(81) = ☐ → Y

sqrt(256) = ☐ → S

sqrt(100) = ☐ → A

sqrt(324) = ☐ → H

sqrt(25) = ☐ → W

sqrt(169) = ☐ → L

sqrt(625) = ☐ → R

sqrt(576) = ☐ → I

sqrt(441) = ☐ → B

sqrt(64) = ☐ → F

sqrt(144) = ☐ → V

sqrt(361) = ☐ → U

sqrt(484) = ☐ → E

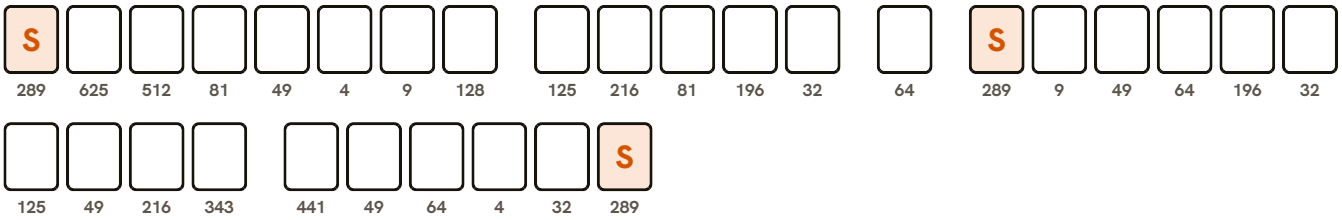
sqrt(400) = ☐ → O

Scratch space:

CLUE 4 Exponents

> The sound technician calculated how the stadium speaker volume multiplied power by power during the incident.

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



17^2 = ☐ → S

8^2 = ☐ → A

14^2 = ☐ → N

2^7 = ☐ → Y

21^2 = ☐ → B

8^3 = ☐ → C

2^2 = ☐ → I

9^2 = ☐ → U

7^2 = ☐ → R

2^5 = ☐ → D

7^3 = ☐ → M

5^4 = ☐ → E

6^3 = ☐ → O

5^3 = ☐ → F

3^2 = ☐ → T

Scratch space:

CLUE 5 Fractions of a number - the last clue

> The lead detective reviewed a small fraction of the remaining video frames to lock down the last clue.

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:

9/10 of 10 = ☐	1/10 of 80 = ☐	1/4 of 44 = ☐	5/6 of 6 = ☐
2/6 of 3 = ☐	5/10 of 12 = ☐	2/5 of 10 = ☐	2/8 of 12 = ☐
2/8 of 40 = ☐	4/6 of 3 = ☐	4/8 of 14 = ☐	

Step 2 - cross out the sentence with each answer:

1. The villain executes a eurostep, then adjusts grip socks.
2. The villain drives with a crossover, then pulls on a padded arm sleeve.
3. The villain fakes a nolook pass, then pulls on a padded arm sleeve.
4. The villain executes a eurostep, then snaps on a headband.
5. The villain drives with a crossover, then snaps on a headband.
6. The villain executes a eurostep, then straps on ankle braces.
7. The villain sinks a fadeaway, then adjusts grip socks.
8. The villain fakes a nolook pass, then snaps on a headband.
9. The villain sinks a fadeaway, then snaps on a headband.
10. The villain drives with a crossover, then laces up neon hightops.
11. The villain sinks a fadeaway, then laces up neon hightops.
12. The villain drills a sky hook, then laces up neon hightops.

TEACHER / PARENT

Answer Key

The Case of the Missing Championship Basketball

Culprit: Damian Lillard

Sky Hook · Neon Hightops · Left-handed shooter · Braids · Loud Whistle

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE SUSPECT DOES NOT WEAR A PADDED ARM SLEEVE"

2/4 of 110 = 55 (T) · 2/10 of 105 = 21 (L) · 3/6 of 120 = 60 (N) · 1/10 of 130 = 13 (U) · 6/8 of 24 = 18 (A) · 1/5 of 55 = 11 (O) · 1/6 of 186 = 31 (P) · 4/8 of 6 = 3 (H) · 1/2 of 94 = 47 (V) · 1/2 of 32 = 16 (R) · 3/6 of 14 = 7 (W) · 2/10 of 115 = 23 (D) · 2/8 of 156 = 39 (E) · 4/8 of 114 = 57 (M) · 1/4 of 24 = 6 (S) · 1/6 of 168 = 28 (C)

Clue 2 (Pythagorean theorem): "A WITNESS SAW A LEFT HANDED SHOOTER LEAVE"

legs 5 and 12, hypotenuse = 13 (A) · legs 21 and 72, hypotenuse = 75 (R) · legs 36 and 105, hypotenuse = 111 (V) · legs 25 and 60, hypotenuse = 65 (O) · legs 18 and 24, hypotenuse = 30 (L) · legs 24 and 70, hypotenuse = 74 (D) · legs 8 and 15, hypotenuse = 17 (W) · legs 9 and 12, hypotenuse = 15 (T) · legs 35 and 120, hypotenuse = 125 (S) · legs 10 and 24, hypotenuse = 26 (F) · legs 80 and 84, hypotenuse = 116 (H) · legs 6 and 8, hypotenuse = 10 (E) · legs 3 and 4, hypotenuse = 5 (I) · legs 32 and 60, hypotenuse = 68 (N)

Clue 3 (Square roots): "THE REFEREE BLEW A VERY LOUD WHISTLE"

sqrt(16) = 4 (T) · sqrt(121) = 11 (D) · sqrt(81) = 9 (Y) · sqrt(256) = 16 (S) · sqrt(100) = 10 (A) · sqrt(324) = 18 (H) · sqrt(25) = 5 (W) · sqrt(169) = 13 (L) · sqrt(625) = 25 (R) · sqrt(576) = 24 (I) · sqrt(441) = 21 (B) · sqrt(64) = 8 (F) · sqrt(144) = 12 (V) · sqrt(361) = 19 (U) · sqrt(484) = 22 (E) · sqrt(400) = 20 (O)

Clue 4 (Exponents): "SECURITY FOUND A STRAND FROM BRAIDS"

17^2 = 289 (S) · 8^2 = 64 (A) · 14^2 = 196 (N) · 2^7 = 128 (Y) · 21^2 = 441 (B) · 8^3 = 512 (C) · 2^2 = 4 (I) · 9^2 = 81 (U) · 7^2 = 49 (R) · 2^5 = 32 (D) · 7^3 = 343 (M) · 5^4 = 625 (E) · 6^3 = 216 (O) · 5^3 = 125 (F) · 3^2 = 9 (T)

Clue 5 (Fractions of a number): surviving statement is box 12 → Damian Lillard

9/10 of 10 = 9 · 1/10 of 80 = 8 · 1/4 of 44 = 11 · 5/6 of 6 = 5 · 2/6 of 3 = 1 · 5/10 of 12 = 6 · 2/5 of 10 = 4 · 2/8 of 12 = 3 · 2/8 of 40 = 10 · 4/6 of 3 = 2 · 4/8 of 14 = 7