The Great Trophy Swap

Grade 7 math · Multiplication, Place value, Integers, Percentages, Two-step equations · Reading level grades 3-4

Detective: _____ **Date:** _____

The stadium was packed and the crowd was cheering! But right before the big trophy presentation, someone swapped the championship trophy with a giant, heavy bowling ball. The Head Coach is in a panic. We must scan the superstar player roster and find the Mascot Meddler before the award ceremony starts!

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 Mascot Meddler is _____

Possible suspects

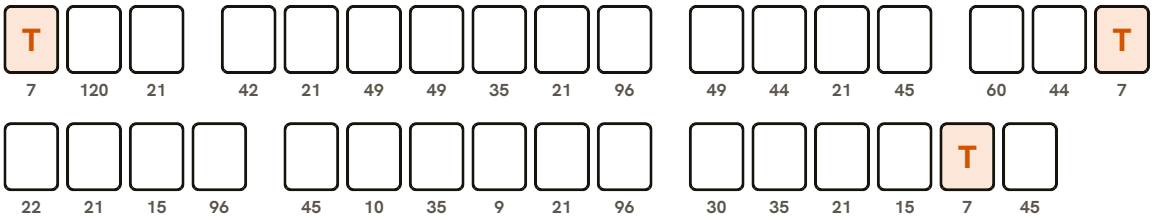
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	STAR SKILL	LUCKY GEAR	DRIBBLE HAND	HAIR COLOR	GAME BLUNDER
Jordan	power kicks	magnetic wristband	dribbles right handed	neon green hair	slipped on a wet court
LeBron	spiral passes	glow visor	dribbles left handed	icy blue hair	tripped over a hurdle
Curry	power kicks	golden sneakers	dribbles left handed	icy blue hair	distracted by a whistle
Harry	sonic serves	glow visor	dribbles right handed	neon green hair	distracted by a whistle
Giannis	sonic serves	golden sneakers	dribbles right handed	icy blue hair	distracted by a whistle
Serena	spiral passes	magnetic wristband	dribbles left handed	neon green hair	slipped on a wet court
Rapinoe	spiral passes	magnetic wristband	dribbles right handed	icy blue hair	tripped over a hurdle
Pele	grand slams	magnetic wristband	dribbles left handed	neon green hair	tripped over a hurdle
Kelce	grand slams	magnetic wristband	dribbles left handed	neon green hair	distracted by a whistle
Nadal	grand slams	golden sneakers	dribbles left handed	bright orange hair	tripped over a hurdle
Mahomes	power kicks	magnetic wristband	dribbles right handed	bright orange hair	tripped over a hurdle
Federer	spiral passes	golden sneakers	dribbles left handed	neon green hair	slipped on a wet court
Alcaraz	spiral passes	magnetic wristband	dribbles right handed	bright orange hair	distracted by a whistle
Biles	sonic serves	glow visor	dribbles left handed	icy blue hair	distracted by a whistle
Brady	power kicks	silver cleats	dribbles left handed	icy blue hair	tripped over a hurdle
Kobe	power kicks	silver cleats	dribbles right handed	bright orange hair	tripped over a hurdle
Shaq	power kicks	magnetic wristband	dribbles left handed	bright orange hair	slipped on a wet court
Trout	power kicks	golden sneakers	dribbles left handed	bright orange hair	distracted by a whistle
Saitama	slam dunks	glow visor	dribbles left handed	icy blue hair	tripped over a hurdle
Messi	sonic serves	magnetic wristband	dribbles left handed	icy blue hair	tripped over a hurdle
Mbappe	spiral passes	magnetic wristband	dribbles left handed	icy blue hair	tripped over a hurdle

CLUE 1 Multiplication facts (1-12)

> We checked the equipment room first. The team basketballs were stacked in neat, even rows. We multiplied the rows to get the total number of balls and found a secret note taped underneath!

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



7 × 1 = ☐ → T

3 × 5 = ☐ → A

7 × 5 = ☐ → L

7 × 7 = ☐ → D

8 × 12 = ☐ → R

9 × 1 = ☐ → V

6 × 10 = ☐ → N

5 × 2 = ☐ → I

4 × 11 = ☐ → O

11 × 2 = ☐ → W

12 × 10 = ☐ → H

7 × 6 = ☐ → M

7 × 3 = ☐ → E

9 × 5 = ☐ → S

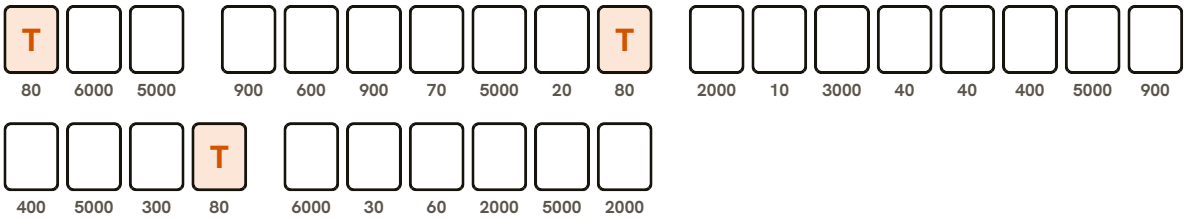
5 × 6 = ☐ → C

Scratch space:

CLUE 2 Place value

> The giant digital scoreboard flickered and went dark. We looked closely at the tens place and the hundreds place of the final score to crack the passcode on the locker room locker!

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



What is the value of the 8 in 503,682? ☐ → T

What is the value of the 6 in 736,174? ☐ → H

What is the value of the 3 in 859,930? ☐ → A

What is the value of the 3 in 483,245? ☐ → I

What is the value of the 6 in 58,688? ☐ → U

What is the value of the 4 in 708,248? ☐ → B

What is the value of the 4 in 76,413? ☐ → L

What is the value of the 2 in 52,910? ☐ → D

What is the value of the 3 in 557,328? ☐ → F

What is the value of the 7 in 14,370? ☐ → P

What is the value of the 6 in 33,164? ☐ → N

What is the value of the 2 in 43,826? ☐ → C

What is the value of the 1 in 256,015? ☐ → R

What is the value of the 5 in 335,926? ☐ → E

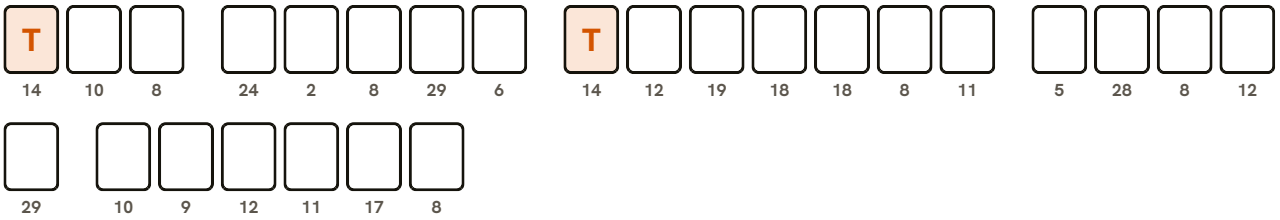
What is the value of the 9 in 83,922? ☐ → S

Scratch space:

CLUE 3 Integers

> The meddler left muddy footprints all over the field. They ran forward for yards and then backward for yards. We calculated the final position using positive and negative integers to find a lost wristband!

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



(-15) + 29 = ☐ → T

(-13) + 32 = ☐ → I

(-3) + 5 = ☐ → N

4 - (-1) = ☐ → O

(-8) + 32 = ☐ → S

(-1) + 10 = ☐ → U

(-13) + 19 = ☐ → K

(-6) + 17 = ☐ → D

3 - (-9) = ☐ → R

(-4) + 14 = ☐ → H

6 - (-11) = ☐ → L

(-10) + 38 = ☐ → V

15 - (-3) = ☐ → P

17 - (-12) = ☐ → A

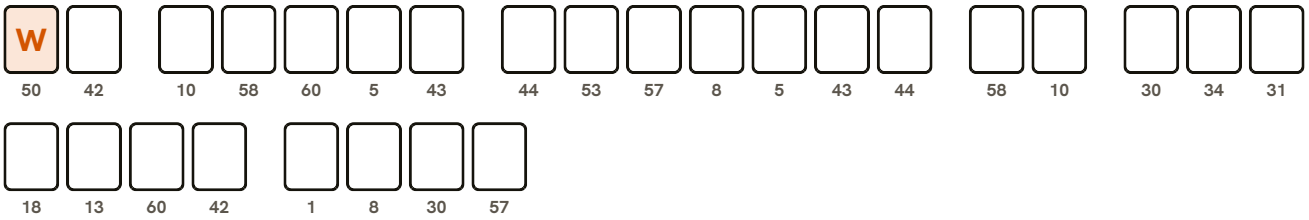
(-7) + 15 = ☐ → E

Scratch space:

CLUE 4 Percentages

> The coach handed us a tablet with the player fitness stats. We calculated the missing practice percentage on the screen to unlock a folder of hidden stadium security photos!

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



20% of 250 = ☐ → W

10% of 10 = ☐ → H

10% of 310 = ☐ → Y

25% of 120 = ☐ → I

5% of 680 = ☐ → C

10% of 440 = ☐ → S

25% of 168 = ☐ → E

50% of 20 = ☐ → F

10% of 50 = ☐ → N

25% of 172 = ☐ → D

20% of 290 = ☐ → O

25% of 72 = ☐ → B

25% of 52 = ☐ → L

10% of 80 = ☐ → A

60% of 95 = ☐ → R

50% of 106 = ☐ → T

40% of 150 = ☐ → U

Scratch space:

CLUE 5 Two-step equations - the last clue

> We found a receipt for energy drinks left near the empty trophy case. The total bill was a base fee plus a set price per bottle. We solved the two-step equation to open the safe!

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:

$2x + 7 = 23$, $x =$ ☐	$6x + 7 = 61$, $x =$ ☐	$4x + 4 = 44$, $x =$ ☐	$2x + 9 = 19$, $x =$ ☐
$5x + 10 = 65$, $x =$ ☐	$5x + 9 = 14$, $x =$ ☐	$3x + 5 = 14$, $x =$ ☐	$5x + 7 = 42$, $x =$ ☐
$4x + 5 = 29$, $x =$ ☐	$3x + 10 = 22$, $x =$ ☐	$3x + 2 = 8$, $x =$ ☐	

Step 2 - cross out the sentence with each answer:

1. The villain smashed the trophy case with grand slams, then ran away in golden sneakers.
2. The villain smashed the trophy case with grand slams, then grabbed the metal safe with a magnetic wristband.
3. The villain swiped the prize with slam dunks, then grabbed the metal safe with a magnetic wristband.
4. The villain cleared the field with spiral passes, then ran away in golden sneakers.
5. The villain swiped the prize with slam dunks, then escaped using a bouncy headband.
6. The villain swiped the prize with slam dunks, then ran away in golden sneakers.
7. The villain cleared the field with spiral passes, then escaped using a bouncy headband.
8. The villain cleared the field with spiral passes, then grabbed the metal safe with a magnetic wristband.
9. The villain swiped the prize with slam dunks, then sped off wearing a glow visor.
10. The villain cleared the field with spiral passes, then sped off wearing a glow visor.
11. The villain blasted past the guards with power kicks, then fled the stadium in silver cleats.
12. The villain distracted the crowd with sonic serves, then grabbed the metal safe with a magnetic wristband.

TEACHER / PARENT

Answer Key

The Great Trophy Swap

Culprit: Messi

sonic serves · magnetic wristband · dribbles left handed · icy blue hair · tripped over a hurdle

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE MEDDLER DOES NOT WEAR SILVER CLEATS"

7 × 1 = 7 (T) · 3 × 5 = 15 (A) · 7 × 5 = 35 (L) · 7 × 7 = 49 (D) · 8 × 12 = 96 (R) · 9 × 1 = 9 (V) · 6 × 10 = 60 (N) · 5 × 2 = 10 (I) · 4 × 11 = 44 (O) · 11 × 2 = 22 (W) · 12 × 10 = 120 (H) · 7 × 6 = 42 (M) · 7 × 3 = 21 (E) · 9 × 5 = 45 (S) · 5 × 6 = 30 (C)

Clue 2 (Place value): "THE SUSPECT DRIBBLES LEFT HANDED"

What is the value of the 8 in 503,682? = 80 (T) · What is the value of the 6 in 736,174? = 6000 (H) · What is the value of the 3 in 859,930? = 30 (A) · What is the value of the 3 in 483,245? = 3000 (I) · What is the value of the 6 in 58,688? = 600 (U) · What is the value of the 4 in 708,248? = 40 (B) · What is the value of the 4 in 76,413? = 400 (L) · What is the value of the 2 in 52,910? = 2000 (D) · What is the value of the 3 in 557,328? = 300 (F) · What is the value of the 7 in 14,370? = 70 (P) · What is the value of the 6 in 33,164? = 60 (N) · What is the value of the 2 in 43,826? = 20 (C) · What is the value of the 1 in 256,015? = 10 (R) · What is the value of the 5 in 335,926? = 5000 (E) · What is the value of the 9 in 83,922? = 900 (S)

Clue 3 (Integers): "THE SNEAK TRIPPED OVER A HURDLE"

(-15) + 29 = 14 (T) · (-13) + 32 = 19 (I) · (-3) + 5 = 2 (N) · 4 - (-1) = 5 (O) · (-8) + 32 = 24 (S) · (-1) + 10 = 9 (U) · (-13) + 19 = 6 (K) · (-6) + 17 = 11 (D) · 3 - (-9) = 12 (R) · (-4) + 14 = 10 (H) · 6 - (-11) = 17 (L) · (-10) + 38 = 28 (V) · 15 - (-3) = 18 (P) · 17 - (-12) = 29 (A) · (-7) + 15 = 8 (E)

Clue 4 (Percentages): "WE FOUND STRANDS OF ICY BLUE HAIR"

20% of 250 = 50 (W) · 10% of 10 = 1 (H) · 10% of 310 = 31 (Y) · 25% of 120 = 30 (I) · 5% of 680 = 34 (C) · 10% of 440 = 44 (S) · 25% of 168 = 42 (E) · 50% of 20 = 10 (F) · 10% of 50 = 5 (N) · 25% of 172 = 43 (D) · 20% of 290 = 58 (O) · 25% of 72 = 18 (B) · 25% of 52 = 13 (L) · 10% of 80 = 8 (A) · 60% of 95 = 57 (R) · 50% of 106 = 53 (T) · 40% of 150 = 60 (U)

Clue 5 (Two-step equations): surviving statement is box 12 → Messi

2x + 7 = 23, x = 8 · 6x + 7 = 61, x = 9 · 4x + 4 = 44, x = 10 · 2x + 9 = 19, x = 5 · 5x + 10 = 65, x = 11 · 5x + 9 = 14, x = 1 · 3x + 5 = 14, x = 3 · 5x + 7 = 42, x = 7 · 4x + 5 = 29, x = 6 · 3x + 10 = 22, x = 4 · 3x + 2 = 8, x = 2