The Mystery of the Stolen Arena Trophy

Grade 5 math · Multiplication, Word problems, Bar models, Fractions of a number, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone ambushed the Head Battle Referee right before the Championship Finals and snatched the Gold League Trophy! Use your detective skills to analyze the arena clues and catch the rogue trainer.

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 Rogue Monster Trainer is _____

Possible suspects

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

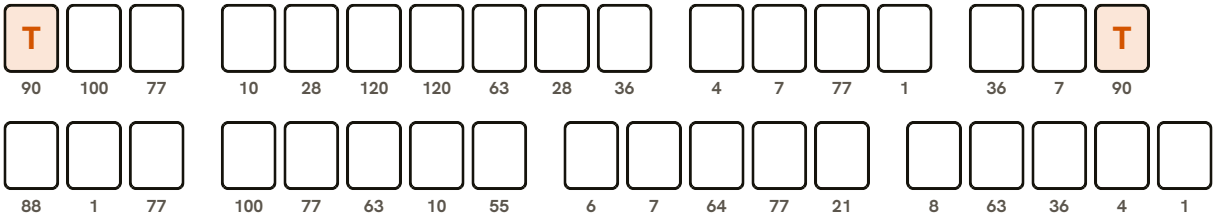
NAME	SIGNATURE CREATURE TYPE	HELD BATTLE ITEM	STANCE HABIT	CAP COLOR	BATTLE FLAW
Trainer Ethan	Psychic Beam	Focus Headband	Right Handed Throw	Black Cap	Overconfident Attacks
Trainer Blue	Electric Spark	Heavy Power Band	Right Handed Throw	Black Cap	Overconfident Attacks
Trainer Rosa	Flame Blaster	Focus Headband	Left Handed Throw	Black Cap	Distracted By Food
Trainer Nate	Electric Spark	Focus Headband	Left Handed Throw	Black Cap	Overconfident Attacks
Trainer Moon	Grass Blade	Focus Headband	Right Handed Throw	Blue Cap	Scared Of Ghosts
Trainer Dawn	Electric Spark	Focus Headband	Right Handed Throw	Red Cap	Scared Of Ghosts
Trainer Juliana	Electric Spark	Focus Headband	Left Handed Throw	Blue Cap	Overconfident Attacks
Trainer Leo	Grass Blade	Speed Boost Berries	Right Handed Throw	Blue Cap	Overconfident Attacks
Trainer Brendan	Psychic Beam	Healing Herb	Left Handed Throw	Black Cap	Overconfident Attacks
Trainer Sun	Psychic Beam	Speed Boost Berries	Right Handed Throw	Black Cap	Scared Of Ghosts
Trainer Misty	Psychic Beam	Speed Boost Berries	Left Handed Throw	Black Cap	Overconfident Attacks
Trainer Gloria	Water Jet	Healing Herb	Left Handed Throw	Red Cap	Scared Of Ghosts
Trainer Ash	Psychic Beam	Speed Boost Berries	Left Handed Throw	Black Cap	Scared Of Ghosts
Trainer Serena	Water Jet	Speed Boost Berries	Right Handed Throw	Red Cap	Overconfident Attacks
Trainer Hilbert	Flame Blaster	Focus Headband	Right Handed Throw	Black Cap	Overconfident Attacks
Trainer Calem	Flame Blaster	Shield Badge	Right Handed Throw	Black Cap	Overconfident Attacks
Trainer Lyra	Water Jet	Healing Herb	Left Handed Throw	Black Cap	Scared Of Ghosts
Trainer May	Flame Blaster	Speed Boost Berries	Right Handed Throw	Black Cap	Overconfident Attacks
Trainer Red	Water Jet	Healing Herb	Right Handed Throw	Black Cap	Scared Of Ghosts
Trainer Victor	Grass Blade	Speed Boost Berries	Left Handed Throw	Blue Cap	Distracted By Food
Trainer Florian	Grass Blade	Shield Badge	Right Handed Throw	Blue Cap	Scared Of Ghosts

make your own at mathcrackers.com

CLUE 1 Multiplication facts (1-12)

> To calculate energy output from stadium generators you multiply row totals by grid counts

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



9 × 10 = ☐ → T	4 × 1 = ☐ → D	10 × 1 = ☐ → V
7 × 11 = ☐ → E	4 × 7 = ☐ → I	1 × 1 = ☐ → S
3 × 2 = ☐ → P		
10 × 10 = ☐ → H	7 × 9 = ☐ → A	8 × 8 = ☐ → W
11 × 5 = ☐ → Y	2 × 4 = ☐ → B	6 × 6 = ☐ → N
7 × 3 = ☐ → R		
11 × 8 = ☐ → U	10 × 12 = ☐ → L	1 × 7 = ☐ → O

Scratch space:

CLUE 2 Word problems

You review the arena logs to see how many battle spheres each contestant packed for matches

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

A witness saw the villain was

R								D	E	D			R	O	W
71	65	95	92	112	92	15	41				112	92	71		

.

There were 96 stadium passes. 25 were used up. How many stadium passes are left?

Answer: ☐ → R

Arena Inspector found 54 stadium passes yesterday and 38 more today. How many stadium passes in all?

Answer: ☐ → H

There were 46 badge cases. 31 were used up. How many badge cases are left?

Answer: ☐ → A

There were 121 badge cases. 26 were used up. How many badge cases are left?

Answer: ☐ → G

There were 91 badge cases. 26 were used up. How many badge cases are left?

Answer: ☐ → I

Arena Inspector found 27 training dummies yesterday and 14 more today. How many training dummies in all?

Answer: ☐ → N

There were 128 power berries. 16 were used up. How many power berries are left?

Answer: ☐ → T

Scratch space:

CLUE 3 Bar model word problems

Comparing power meters on the arena wall helps you visualize energy levels of each suspect

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

O					O			I	D			T	A	T	T	A		K	S	.
113	137	44	16	126	113	56	83			44	56						126				

Arena Inspector has 226 stadium passes, packed 2 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → O

The red team has 113 battle spheres and the blue team has 30 battle spheres. How many more battle spheres does the red team have?

draw a bar model

Answer: ☐ → F

Arena Inspector has 8 times as many stadium passes as a teammate. The teammate has 7 stadium passes. How many stadium passes does Arena Inspector have?

draw a bar model

Answer: ☐ → N

The red team has 145 power berries and the blue team has 19 power berries. How many more power berries does the red team have?

draw a bar model

Answer: ☐ → C

Arena Inspector has 4 times as many power berries as a teammate. The teammate has 4 power berries. How many power berries does Arena Inspector have?

draw a bar model

Answer: ☐ → R

The red team has 78 badge cases and the blue team has 34 badge cases. How many more badge cases does the red team have?

draw a bar model

Answer: ☐ → E

One group collected 74 training dummies and another group collected 63 training dummies. How many training dummies in all?

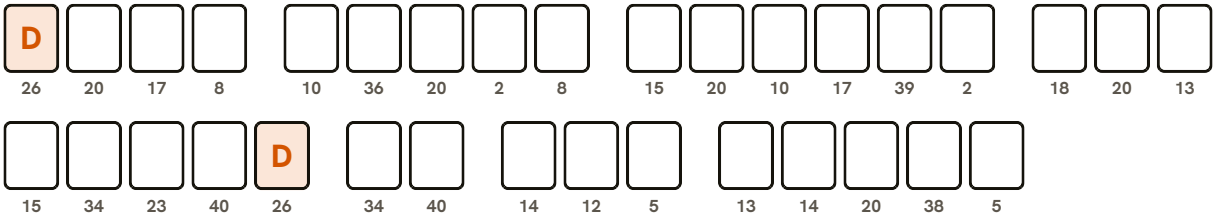
draw a bar model

Answer: ☐ → V

CLUE 4 Fractions of a number

A fraction of the arena light displays flickered during the event pointing to power drain

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



2/6 of 78 = ☐ → D	1/5 of 50 = ☐ → B	3/6 of 26 = ☐ → S
1/3 of 114 = ☐ → G	1/3 of 117 = ☐ → I	1/10 of 200 = ☐ → A
4/6 of 12 = ☐ → K	1/2 of 4 = ☐ → C	1/8 of 136 = ☐ → R
1/5 of 90 = ☐ → W	1/3 of 15 = ☐ → E	5/10 of 30 = ☐ → F
2/5 of 100 = ☐ → N	2/10 of 180 = ☐ → L	2/3 of 51 = ☐ → O
1/3 of 36 = ☐ → H	5/10 of 46 = ☐ → U	2/6 of 42 = ☐ → T

Scratch space:

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

Dividing leftover creature snacks equally among security staff reveals a strange 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:

36 ÷ 4 = ☐ | 12 ÷ 2 = ☐ | 32 ÷ 8 = ☐ | 27 ÷ 9 = ☐ | 132 ÷ 11 = ☐

56 ÷ 8 = ☐ | 88 ÷ 8 = ☐ | 5 ÷ 1 = ☐ | 5 ÷ 5 = ☐ | 100 ÷ 10 = ☐

56 ÷ 7 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain unleashed an electric spark, then brewed a healing herb.
2. The villain fired a flame blaster, then consumed speed boost berries.
3. The villain fired a flame blaster, then brewed a healing herb.
4. The villain channeled a psychic beam, then adjusted a focus headband.
5. The villain channeled a psychic beam, then activated a shield badge.
6. The villain fired a flame blaster, then activated a shield badge.
7. The villain blasted a water jet, then activated a shield badge.
8. The villain slashed a grass blade, then brewed a healing herb.
9. The villain fired a flame blaster, then adjusted a focus headband.
10. The villain channeled a psychic beam, then brewed a healing herb.
11. The villain slashed a grass blade, then activated a shield badge.
12. The villain channeled a psychic beam, then consumed speed boost berries.

TEACHER / PARENT

Answer Key

The Mystery of the Stolen Arena Trophy

Culprit: Trainer May

Flame Blaster · Speed Boost Berries · Right Handed Throw · Black Cap · Overconfident Attacks

Trail: Start 21 → Clue 1 20 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE HEAVY POWER BANDS"

9 × 10 = 90 (T) · 4 × 1 = 4 (D) · 10 × 1 = 10 (V) · 7 × 11 = 77 (E) · 4 × 7 = 28 (I) · 1 × 1 = 1 (S) · 3 × 2 = 6 (P) · 10 × 10 = 100 (H) · 7 × 9 = 63 (A) · 8 × 8 = 64 (W) · 11 × 5 = 55 (Y) · 2 × 4 = 8 (B) · 6 × 6 = 36 (N) · 7 × 3 = 21 (R) · 11 × 8 = 88 (U) · 10 × 12 = 120 (L) · 1 × 7 = 7 (O)

Clue 2 (Word problems): "RIGHT HANDED THROW"

There were 96 stadium passes. 25 were used up. How many stadium passes are left? = 71 (R) · Arena Inspector found 54 stadium passes yesterday and 38 more today. How many stadium passes in all? = 92 (H) · There were 46 badge cases. 31 were used up. How many badge cases are left? = 15 (A) · There were 121 badge cases. 26 were used up. How many badge cases are left? = 95 (G) · There were 91 badge cases. 26 were used up. How many badge cases are left? = 65 (I) · Arena Inspector found 27 training dummies yesterday and 14 more today. How many training dummies in all? = 41 (N) · There were 128 power berries. 16 were used up. How many power berries are left? = 112 (T)

Clue 3 (Bar model word problems): "OVERCONFIDENT ATTACKS"

Arena Inspector has 226 stadium passes, packed 2 to a bag. How many bags can be filled? = 113 (O) · The red team has 113 battle spheres and the blue team has 30 battle spheres. How many more battle spheres does the red team have? = 83 (F) · Arena Inspector has 8 times as many stadium passes as a teammate. The teammate has 7 stadium passes. How many stadium passes does Arena Inspector have? = 56 (N) · The red team has 145 power berries and the blue team has 19 power berries. How many more power berries does the red team have? = 126 (C) · Arena Inspector has 4 times as many power berries as a teammate. The teammate has 4 power berries. How many power berries does Arena Inspector have? = 16 (R) · The red team has 78 badge cases and the blue team has 34 badge cases. How many more badge cases does the red team have? = 44 (E) · One group collected 74 training dummies and another group collected 63 training dummies. How many training dummies in all? = 137 (V)

Clue 4 (Fractions of a number): "DARK BLACK FABRIC WAS FOUND ON THE STAGE"

2/6 of 78 = 26 (D) · 1/5 of 50 = 10 (B) · 3/6 of 26 = 13 (S) · 1/3 of 114 = 38 (G) · 1/3 of 117 = 39 (I) · 1/10 of 200 = 20 (A) · 4/6 of 12 = 8 (K) · 1/2 of 4 = 2 (C) · 1/8 of 136 = 17 (R) · 1/5 of 90 = 18 (W) · 1/3 of 15 = 5 (E) · 5/10 of 30 = 15 (F) · 2/5 of 100 = 40 (N) · 2/10 of 180 = 36 (L) · 2/3 of 51 = 34 (O) · 1/3 of 36 = 12 (H) · 5/10 of 46 = 23 (U) · 2/6 of 42 = 14 (T)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Trainer May

36 ÷ 4 = 9 · 12 ÷ 2 = 6 · 32 ÷ 8 = 4 · 27 ÷ 9 = 3 · 132 ÷ 11 = 12 · 56 ÷ 8 = 7 · 88 ÷ 8 = 11 · 5 ÷ 1 = 5 · 5 ÷ 5 = 1 · 100 ÷ 10 = 10 · 56 ÷ 7 = 8