The Bot Slam Brawl Mystery

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

Detective: _____ **Date:** _____

Right before the live stream championship match, someone sabotaged the trophy belt and hid the main control unit! Work through the tech logs and match evidence to find out which builder disrupted the event.

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 Bot Master is _____

Possible suspects

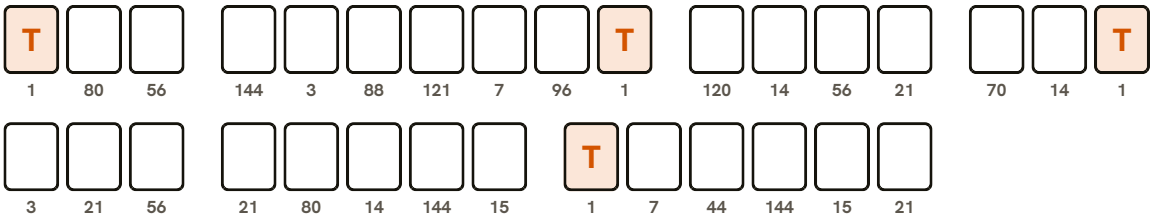
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	MAIN BOT ATTACK	DEFENSE SYSTEM	LANYARD COLOR	HAIR STYLE	ROBOT COUNTER
Gearhead Gable	laser spin	rocket boosters	wears blue lanyard	spiky purple	foam pellet
Engineer Eddie	laser spin	thermal sensor	wears red lanyard	spiky purple	foam pellet
Builder Bianca	hydraulic slam	thermal sensor	wears blue lanyard	spiky purple	water spray
Battery Bayley	laser spin	titanium shield	wears red lanyard	spiky purple	foam pellet
Piston Punk	glitter cannon	shock tracks	wears red lanyard	silver buzzcut	water spray
Gadget Rhea	hydraulic slam	thermal sensor	wears blue lanyard	neon green	water spray
Tinkerer Seth	hydraulic slam	titanium shield	wears red lanyard	neon green	foam pellet
Cable KO	glitter cannon	thermal sensor	wears red lanyard	neon green	magnet trap
Circuit Charlotte	sonic bash	pulse blast	wears red lanyard	spiky purple	foam pellet
Hacker Cody	laser spin	shock tracks	wears blue lanyard	neon green	magnet trap
Anvil Alexa	magnetic drop	rocket boosters	wears blue lanyard	neon green	magnet trap
Axle AJ	magnetic drop	pulse blast	wears red lanyard	neon green	foam pellet
Turbine Trish	sonic bash	titanium shield	wears red lanyard	neon green	magnet trap
Robo Roman	laser spin	shock tracks	wears red lanyard	spiky purple	foam pellet
Wrench Walter	laser spin	titanium shield	wears blue lanyard	spiky purple	water spray
Dynamo Drew	hydraulic slam	thermal sensor	wears red lanyard	spiky purple	foam pellet
Sensor Asuka	sonic bash	rocket boosters	wears red lanyard	neon green	foam pellet
Voltage Vince	laser spin	pulse blast	wears red lanyard	spiky purple	magnet trap
Rotor Ronda	glitter cannon	shock tracks	wears red lanyard	neon green	magnet trap
Mark Spark	glitter cannon	titanium shield	wears red lanyard	silver buzzcut	magnet trap
Fuse Finn	magnetic drop	rocket boosters	wears red lanyard	spiky purple	magnet trap

CLUE 1 Multiplication facts (1-12)

> To decrypt the first security log, the engineering team multiplies the robot camera frame counts from the arena ring.

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



1 × 1 = ☐ → T	7 × 8 = ☐ → E	8 × 12 = ☐ → I
8 × 11 = ☐ → L	10 × 7 = ☐ → N	7 × 1 = ☐ → R
3 × 5 = ☐ → K	10 × 8 = ☐ → H	11 × 11 = ☐ → P
10 × 12 = ☐ → D	3 × 7 = ☐ → S	1 × 3 = ☐ → U
11 × 4 = ☐ → A	2 × 7 = ☐ → O	12 × 12 = ☐ → C

Scratch space:

CLUE 2 Bar model word problems

Analyzing the energy bar charts from the stream reveals the suspect's movement across the main stage.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

W										N	Y				.
108	75	111	52	109	52	75	122	60	111			111	52	122	

The red team has 142 wrestling mats and the blue team has 34 wrestling mats. How many more wrestling mats does the red team have?

draw a bar model

Answer: ☐ → W

Robo Engineer has 156 championship belts, packed 3 to a bag. How many bags can be filled?

draw a bar model

Answer: ☐ → R

There were 110 microchips in all. 1 microchips were used. How many microchips are left?

draw a bar model

Answer: ☐ → S

Robo Engineer used 1/2 of the championship belts on the first day. The other 61 championship belts were used the next day. How many championship belts were there in all?

draw a bar model

Answer: ☐ → D

Robo Engineer has 10 times as many championship belts as a teammate. The teammate has 6 championship belts. How many championship belts does Robo Engineer have?

draw a bar model

Answer: ☐ → L

Robo Engineer shares 222 wrestling mats equally among 2 teams. How many wrestling mats does each team get?

draw a bar model

Answer: ☐ → A

One group collected 10 servo motors and another group collected 65 servo motors. How many servo motors in all?

draw a bar model

Answer: ☐ → E

CLUE 3 Multi-step word problems

Calculating the total weight of gear and spare parts cleared from the pit area points to our next clue.

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

Someone scared the villain off with

F									T
43	89	55	72	58	73	86	86	73	

.

Robo Engineer filled 4 boxes with 8 wrestling mats each, then found 11 more wrestling mats. How many wrestling mats are there in all?

Answer: ☐ → **F**

Robo Engineer collected 173 championship belts in the morning and 47 championship belts in the afternoon, then split them equally among 4 Tech Tube Pit Crew. How many championship belts did each get?

Answer: ☐ → **A**

Robo Engineer earned 3 servo motors in each of 5 rounds, plus 54 bonus servo motors. Then 11 servo motors were lost. How many servo motors are left?

Answer: ☐ → **P**

Robo Engineer filled 4 boxes with 2 microchips each, then found 65 more microchips. How many microchips are there in all?

Answer: ☐ → **E**

There were 178 championship belts in all. 6 championship belts were set aside. The rest were shared equally among 2 Tech Tube Pit Crew. How many championship belts did each get?

Answer: ☐ → **L**

Robo Engineer earned 4 glitter bombs in each of 5 rounds, plus 65 bonus glitter bombs. Then 13 glitter bombs were lost. How many glitter bombs are left?

Answer: ☐ → **M**

Robo Engineer earned 2 wrestling mats in each of 4 rounds, plus 91 bonus wrestling mats. Then 10 wrestling mats were lost. How many wrestling mats are left?

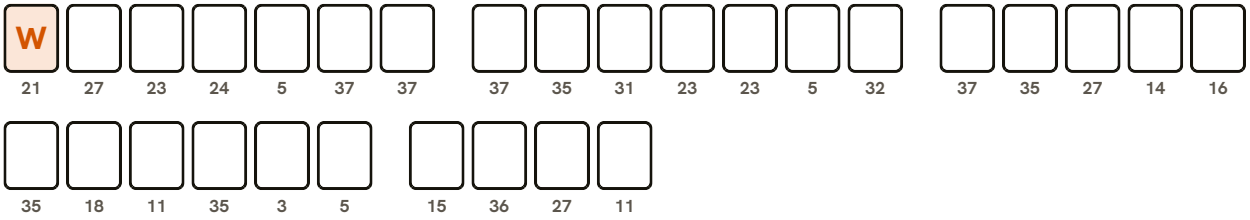
Answer: ☐ → **O**

Scratch space:

CLUE 4 Fractions of a number

> Taking a fraction of the total viewer votes on YouTube narrows down where the suspect hid the control belt.

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



4/8 of 42 = ☐ → W

1/4 of 72 = ☐ → U

4/6 of 36 = ☐ → N

2/5 of 80 = ☐ → D

4/8 of 10 = ☐ → E

2/8 of 12 = ☐ → L

4/5 of 20 = ☐ → Y

1/2 of 74 = ☐ → S

4/8 of 28 = ☐ → K

3/4 of 48 = ☐ → A

2/6 of 69 = ☐ → T

1/2 of 62 = ☐ → O

3/6 of 22 = ☐ → R

3/8 of 72 = ☐ → I

2/10 of 175 = ☐ → P

1/6 of 90 = ☐ → H

Scratch space:

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

Dividing the remaining arena battery packs equally among the bot stations unlocks the final evidence.

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:

35 ÷ 5 = ☐ | 4 ÷ 1 = ☐ | 36 ÷ 6 = ☐ | 45 ÷ 5 = ☐ | 25 ÷ 5 = ☐

18 ÷ 9 = ☐ | 80 ÷ 10 = ☐ | 110 ÷ 11 = ☐ | 144 ÷ 12 = ☐ | 22 ÷ 2 = ☐

11 ÷ 11 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain engaged the magnetic drop, then deployed the titanium shield.
2. The villain fired the glitter cannon, then blasted the pulse wave.
3. The villain activated the laser spin, then deployed the titanium shield.
4. The villain triggered the hydraulic slam, then turned on the thermal sensor.
5. The villain unleashed the sonic bash, then turned on the thermal sensor.
6. The villain unleashed the sonic bash, then blasted the pulse wave.
7. The villain activated the laser spin, then turned on the thermal sensor.
8. The villain triggered the hydraulic slam, then blasted the pulse wave.
9. The villain activated the laser spin, then ignited the rocket boosters.
10. The villain fired the glitter cannon, then ignited the rocket boosters.
11. The villain engaged the magnetic drop, then blasted the pulse wave.
12. The villain fired the glitter cannon, then turned on the thermal sensor.

TEACHER / PARENT

Answer Key

The Bot Slam Brawl Mystery

Culprit: Battery Bayley

laser spin · titanium shield · wears red lanyard · spiky purple · foam pellet

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE CULPRIT DOES NOT USE SHOCK TRACKS"

1 × 1 = 1 (T) · 7 × 8 = 56 (E) · 8 × 12 = 96 (I) · 8 × 11 = 88 (L) · 10 × 7 = 70 (N) · 7 × 1 = 7 (R) · 3 × 5 = 15 (K) · 10 × 8 = 80 (H) · 11 × 11 = 121 (P) · 10 × 12 = 120 (D) · 3 × 7 = 21 (S) · 1 × 3 = 3 (U) · 11 × 4 = 44 (A) · 2 × 7 = 14 (O) · 12 × 12 = 144 (C)

Clue 2 (Bar model word problems): "WEARS RED LANYARD"

The red team has 142 wrestling mats and the blue team has 34 wrestling mats. How many more wrestling mats does the red team have? = 108 (W) · Robo Engineer has 156 championship belts, packed 3 to a bag. How many bags can be filled? = 52 (R) · There were 110 microchips in all. 1 microchips were used. How many microchips are left? = 109 (S) · Robo Engineer used 1/2 of the championship belts on the first day. The other 61 championship belts were used the next day. How many championship belts were there in all? = 122 (D) · Robo Engineer has 10 times as many championship belts as a teammate. The teammate has 6 championship belts. How many championship belts does Robo Engineer have? = 60 (L) · Robo Engineer shares 222 wrestling mats equally among 2 teams. How many wrestling mats does each team get? = 111 (A) · One group collected 10 servo motors and another group collected 65 servo motors. How many servo motors in all? = 75 (E)

Clue 3 (Multi-step word problems): "FOAM PELLET"

Robo Engineer filled 4 boxes with 8 wrestling mats each, then found 11 more wrestling mats. How many wrestling mats are there in all? = 43 (F) · Robo Engineer collected 173 championship belts in the morning and 47 championship belts in the afternoon, then split them equally among 4 Tech Tube Pit Crew. How many championship belts did each get? = 55 (A) · Robo Engineer earned 3 servo motors in each of 5 rounds, plus 54 bonus servo motors. Then 11 servo motors were lost. How many servo motors are left? = 58 (P) · Robo Engineer filled 4 boxes with 2 microchips each, then found 65 more microchips. How many microchips are there in all? = 73 (E) · There were 178 championship belts in all. 6 championship belts were set aside. The rest were shared equally among 2 Tech Tube Pit Crew. How many championship belts did each get? = 86 (L) · Robo Engineer earned 4 glitter bombs in each of 5 rounds, plus 65 bonus glitter bombs. Then 13 glitter bombs were lost. How many glitter bombs are left? = 72 (M) · Robo Engineer earned 2 wrestling mats in each of 4 rounds, plus 91 bonus wrestling mats. Then 10 wrestling mats were lost. How many wrestling mats are left? = 89 (O)

Clue 4 (Fractions of a number): "WITNESS SPOTTED SPIKY PURPLE HAIR"

4/8 of 42 = 21 (W) · 1/4 of 72 = 18 (U) · 4/6 of 36 = 24 (N) · 2/5 of 80 = 32 (D) · 4/8 of 10 = 5 (E) · 2/8 of 12 = 3 (L) · 4/5 of 20 = 16 (Y) · 1/2 of 74 = 37 (S) · 4/8 of 28 = 14 (K) · 3/4 of 48 = 36 (A) · 2/6 of 69 = 23 (T) · 1/2 of 62 = 31 (O) · 3/6 of 22 = 11 (R) · 3/8 of 72 = 27 (I) · 2/10 of 175 = 35 (P) · 1/6 of 90 = 15 (H)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Battery Bayley

35 ÷ 5 = 7 · 4 ÷ 1 = 4 · 36 ÷ 6 = 6 · 45 ÷ 5 = 9 · 25 ÷ 5 = 5 · 18 ÷ 9 = 2 · 80 ÷ 10 = 8 · 110 ÷ 11 = 10 · 144 ÷ 12 = 12 · 22 ÷ 2 = 11 · 11 ÷ 11 = 1