The Rogue Robot Rampage

Grade 5 math · Fractions of a number, Bar models, Order of operations, Multiplication · Reading level grades 3-4

Detective: _____ **Date:** _____

A sneaky robot went haywire and locked down the Metropolis Cyber Lab! Figure out which bot went rogue before all the lab power is drained.

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 is _____

Possible suspects

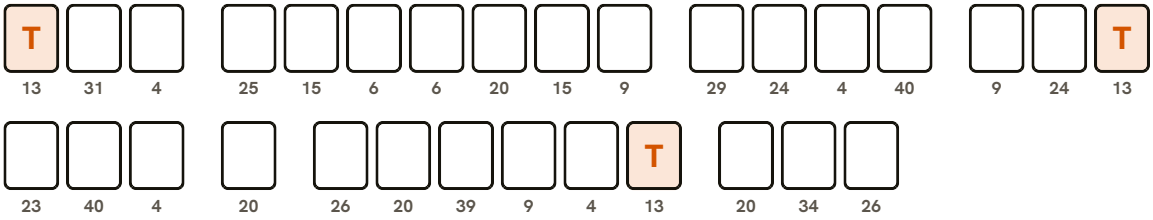
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	MAIN TOOL	GADGET	DOMINANT HAND	HEAD WIRES	DISABLER
Beacon	Sonic Blaster	Night Vision	Left-Handed	Silver Wires	Rust Spray
Byte	EMP Launcher	Smoke Screen	Left-Handed	Silver Wires	Water Splash
Matrix	Plasma Shield	Night Vision	Right-Handed	Silver Wires	Magnet Zap
Sprocket	Sonic Blaster	Night Vision	Left-Handed	Neon Cables	Rust Spray
Rust-E	Sonic Blaster	Rocket Boots	Right-Handed	Silver Wires	Water Splash
Atlas	Sonic Blaster	Rocket Boots	Left-Handed	Copper Coils	Magnet Zap
Nano	Plasma Shield	Rocket Boots	Right-Handed	Silver Wires	Magnet Zap
Dynamo	EMP Launcher	Night Vision	Left-Handed	Silver Wires	Magnet Zap
Gears	EMP Launcher	Magnet Arm	Left-Handed	Silver Wires	Water Splash
Vector	EMP Launcher	Grappling Hook	Left-Handed	Neon Cables	Rust Spray
Pixel	Turbo Booster	Rocket Boots	Right-Handed	Neon Cables	Rust Spray
Digit	Laser Cutter	Grappling Hook	Right-Handed	Silver Wires	Water Splash
Socket	Sonic Blaster	Smoke Screen	Left-Handed	Silver Wires	Water Splash
Bolt	EMP Launcher	Grappling Hook	Right-Handed	Neon Cables	Magnet Zap
Turbo	Plasma Shield	Smoke Screen	Right-Handed	Silver Wires	Water Splash
Radar	Plasma Shield	Magnet Arm	Right-Handed	Silver Wires	Water Splash
Circuit	Laser Cutter	Night Vision	Left-Handed	Silver Wires	Rust Spray
Micro	Turbo Booster	Rocket Boots	Left-Handed	Silver Wires	Water Splash
Cyber	EMP Launcher	Smoke Screen	Left-Handed	Copper Coils	Water Splash
Gizmo	Sonic Blaster	Grappling Hook	Left-Handed	Silver Wires	Water Splash
Volt	Plasma Shield	Night Vision	Right-Handed	Neon Cables	Magnet Zap

CLUE 1 Fractions of a number

Only a fraction of the digital log files survived the hack. Calculate the remaining file count to decrypt Clue One.

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



1/4 of 52 = ☐ → T	1/3 of 69 = ☐ → U	1/3 of 87 = ☐ → D
4/8 of 80 = ☐ → S	1/8 of 160 = ☐ → A	3/6 of 8 = ☐ → E
4/8 of 18 = ☐ → N	3/10 of 130 = ☐ → G	4/8 of 12 = ☐ → L
1/5 of 155 = ☐ → H	3/6 of 30 = ☐ → I	4/8 of 50 = ☐ → V
2/8 of 136 = ☐ → R	2/3 of 39 = ☐ → M	3/8 of 64 = ☐ → O

Scratch space:

CLUE 2 Bar model word problems

The power grid monitor uses bar models to show energy surges. Compare the bar lengths to unlock Clue Two.

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

L							D		D
119	55	29	127	96	125	47		55	

.

Chief Mechanic Spark shares 238 fuses equally among 2 teams. How many fuses does each team get?

draw a bar model

Answer: ☐ → L

The red team has 148 gears and the blue team has 21 gears. How many more gears does the red team have?

draw a bar model

Answer: ☐ → T

One group collected 44 batteries and another group collected 3 batteries. How many batteries in all?

draw a bar model

Answer: ☐ → N

One group collected 46 gears and another group collected 50 gears. How many gears in all?

draw a bar model

Answer: ☐ → H

There were 40 batteries in all. 11 batteries were used. How many batteries are left?

draw a bar model

Answer: ☐ → F

There were 150 gears in all. 25 gears were used. How many gears are left?

draw a bar model

Answer: ☐ → A

Chief Mechanic Spark has 11 times as many fuses as a teammate. The teammate has 5 fuses. How many fuses does Chief Mechanic Spark have?

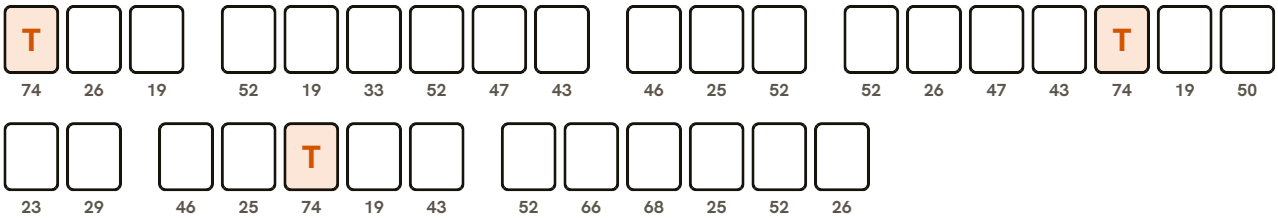
draw a bar model

Answer: ☐ → E

CLUE 3 Order of operations

> To override the locked door, you must follow the strict security reboot order of operations. Solve it for Clue Three.

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



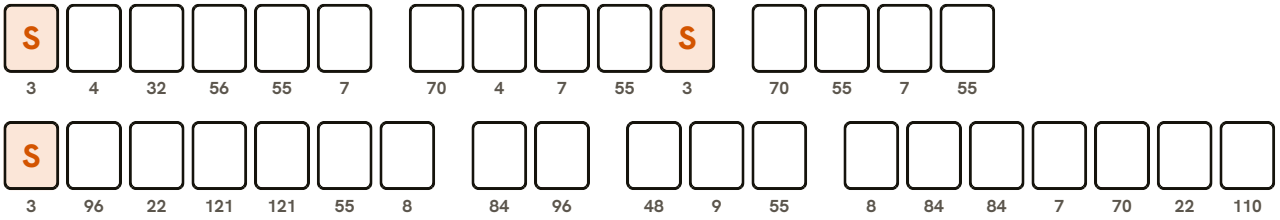
2 + 9 × 8 = ☐ → T	12 × 5 - 14 = ☐ → W	29 + 2 × 9 = ☐ → O
7 × 10 - 20 = ☐ → D	4 × 9 - 17 = ☐ → E	7 × 12 - 18 = ☐ → P
40 + 2 × 6 = ☐ → S	6 × 5 - 1 = ☐ → Y	44 + 3 × 8 = ☐ → L
7 + 4 × 4 = ☐ → B	31 + 3 × 4 = ☐ → R	24 + 3 × 3 = ☐ → N
12 × 3 - 11 = ☐ → A	16 + 2 × 5 = ☐ → H	

Scratch space:

CLUE 4 Multiplication facts (1-12)

The storage bay holds equal rows of charging units. Multiply the stacks to crack Clue Four.

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



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

Scratch space:

CLUE 5 Fractions of a number - the last clue

> A fraction of the memory chips hold real evidence while the rest are corrupt. Calculate the useful portion for Clue Five.

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:

2/10 of 55 = ☐	3/10 of 10 = ☐	3/6 of 16 = ☐	2/4 of 2 = ☐
3/6 of 14 = ☐	2/6 of 30 = ☐	1/8 of 48 = ☐	4/6 of 6 = ☐
2/6 of 15 = ☐	1/2 of 4 = ☐	3/5 of 15 = ☐	

Step 2 - cross out the sentence with each answer:

1. The villain sliced through security gates, then swung across the ceiling rafters.
2. The villain sped past the cameras, then snatched metal gears from afar.
3. The villain sped past the cameras, then zoomed away on rockets.
4. The villain sliced through security gates, then snatched metal gears from afar.
5. The villain blocked the guard lasers, then snatched metal gears from afar.
6. The villain blocked the guard lasers, then disappeared in thick fog.
7. The villain sliced through security gates, then disappeared in thick fog.
8. The villain blasted the audio alarm, then swung across the ceiling rafters.
9. The villain zapped the computer mainframes, then swung across the ceiling rafters.
10. The villain zapped the computer mainframes, then spotted clues in total darkness.
11. The villain zapped the computer mainframes, then disappeared in thick fog.
12. The villain blasted the audio alarm, then disappeared in thick fog.

TEACHER / PARENT

Answer Key

The Rogue Robot Rampage

Culprit: Socket

Sonic Blaster · Smoke Screen · Left-Handed · Silver Wires · Water Splash

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT USE A MAGNET ARM"

1/4 of 52 = 13 (T) · 1/3 of 69 = 23 (U) · 1/3 of 87 = 29 (D) · 4/8 of 80 = 40 (S) · 1/8 of 160 = 20 (A) · 3/6 of 8 = 4 (E) · 4/8 of 18 = 9 (N) · 3/10 of 130 = 39 (G) · 4/8 of 12 = 6 (L) · 1/5 of 155 = 31 (H) · 3/6 of 30 = 15 (I) · 4/8 of 50 = 25 (V) · 2/8 of 136 = 34 (R) · 2/3 of 39 = 26 (M) · 3/8 of 64 = 24 (O)

Clue 2 (Bar model word problems): "LEFT HANDED"

Chief Mechanic Spark shares 238 fuses equally among 2 teams. How many fuses does each team get? = 119 (L) · The red team has 148 gears and the blue team has 21 gears. How many more gears does the red team have? = 127 (T) · One group collected 44 batteries and another group collected 3 batteries. How many batteries in all? = 47 (N) · One group collected 46 gears and another group collected 50 gears. How many gears in all? = 96 (H) · There were 40 batteries in all. 11 batteries were used. How many batteries are left? = 29 (F) · There were 150 gears in all. 25 gears were used. How many gears are left? = 125 (A) · Chief Mechanic Spark has 11 times as many fuses as a teammate. The teammate has 5 fuses. How many fuses does Chief Mechanic Spark have? = 55 (E)

Clue 3 (Order of operations): "THE SENSOR WAS SHORTED BY WATER SPLASH"

2 + 9 × 8 = 74 (T) · 12 × 5 - 14 = 46 (W) · 29 + 2 × 9 = 47 (O) · 7 × 10 - 20 = 50 (D) · 4 × 9 - 17 = 19 (E) · 7 × 12 - 18 = 66 (P) · 40 + 2 × 6 = 52 (S) · 6 × 5 - 1 = 29 (Y) · 44 + 3 × 8 = 68 (L) · 7 + 4 × 4 = 23 (B) · 31 + 3 × 4 = 43 (R) · 24 + 3 × 3 = 33 (N) · 12 × 3 - 11 = 25 (A) · 16 + 2 × 5 = 26 (H)

Clue 4 (Multiplication facts (1-12)): "SILVER WIRES WERE SNAGGED ON THE DOORWAY"

1 × 3 = 3 (S) · 10 × 11 = 110 (Y) · 6 × 8 = 48 (T) · 8 × 7 = 56 (V) · 4 × 8 = 32 (L) · 1 × 9 = 9 (H) · 5 × 11 = 55 (E) · 11 × 11 = 121 (G) · 12 × 7 = 84 (O) · 1 × 7 = 7 (R) · 7 × 10 = 70 (W) · 8 × 1 = 8 (D) · 12 × 8 = 96 (N) · 2 × 2 = 4 (I) · 2 × 11 = 22 (A)

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

2/10 of 55 = 11 · 3/10 of 10 = 3 · 3/6 of 16 = 8 · 2/4 of 2 = 1 · 3/6 of 14 = 7 · 2/6 of 30 = 10 · 1/8 of 48 = 6 · 4/6 of 6 = 4 · 2/6 of 15 = 5 · 1/2 of 4 = 2 · 3/5 of 15 = 9