



The Case of the Mischievous Mech

Grade 3 math · Multiplication, Subtraction, Addition, Place value, Division · Reading level grades 3-4

Detective: _____ Date: _____

Someone scrambled the blueprints at Cyber City Bot Works! Detective, gather clues from the factory logs to find the rogue bot before the grand unveiling.

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	PRIMARY TOOL	GADGET	INDICATOR LIGHT	ANTENNA STYLE	SYSTEM GLITCH
Piston	plasma welder	shield generator	flashing green light	spiral antenna	magnet fields
Circuit	hydraulic lift	magnet beam	flashing green light	dish antenna	water splashes
Bolt	plasma welder	stealth cloak	steady red light	spiral antenna	loud noises
Vector	sonic drill	magnet beam	steady red light	dish antenna	water splashes
Gearhead	sonic drill	shield generator	flashing green light	twin antennas	loud noises
Sprocket	plasma welder	magnet beam	flashing green light	spiral antenna	loud noises
Giga	hydraulic lift	stealth cloak	steady red light	spiral antenna	loud noises
Matrix	sonic drill	tracker ray	steady red light	spiral antenna	loud noises
Sparky	sonic drill	shield generator	steady red light	spiral antenna	magnet fields
Data	rivet gun	shield generator	steady red light	spiral antenna	water splashes
Echo	sonic drill	turbo booster	steady red light	spiral antenna	loud noises
Radar	sonic drill	turbo booster	steady red light	twin antennas	water splashes
Chip	laser cutter	stealth cloak	flashing green light	spiral antenna	water splashes
Gizmo	plasma welder	shield generator	steady red light	twin antennas	loud noises
Nano	plasma welder	tracker ray	steady red light	dish antenna	loud noises
Turbo	laser cutter	tracker ray	steady red light	dish antenna	water splashes
Tracker	sonic drill	shield generator	steady red light	spiral antenna	loud noises
Rust E	plasma welder	stealth cloak	steady red light	twin antennas	magnet fields
Volt	laser cutter	shield generator	steady red light	spiral antenna	magnet fields
Beacon	hydraulic lift	magnet beam	steady red light	spiral antenna	loud noises
Widget	plasma welder	shield generator	flashing green light	dish antenna	water splashes

CLUE 1
Multiplication facts (1-12)

To read the security log, you must calculate the total crates arranged in equal rows on the loading dock.

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

T																T
121	3	48	99	44	7	7	84	44	21	60	132	48	64	21	132	121

				T				T							
66	64	48	84	64	121	48	84	7	121	3	40	7	132	84	55

$11 \times 11 = \square \rightarrow \text{D}$

$8 \times 8 = \square \rightarrow \text{S}$

$12 \times 7 = \square \rightarrow \text{A}$

$10 \times 6 = \square \rightarrow \text{D}$

$11 \times 12 = \square \rightarrow \text{O}$

$11 \times 5 = \square \rightarrow \text{K}$

$1 \times 3 = \square \rightarrow \text{H}$

$3 \times 7 = \square \rightarrow \text{N}$

$7 \times 1 = \square \rightarrow \text{L}$

$11 \times 6 = \square \rightarrow \text{U}$

$8 \times 6 = \square \rightarrow \text{E}$

$9 \times 11 = \square \rightarrow \text{V}$

$11 \times 4 = \square \rightarrow \text{I}$

$4 \times 10 = \square \rightarrow \text{C}$

Scratch space:

CLUE 2

Subtraction

You find a torn blueprint page. Subtract the missing parts to reveal the secret code.

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

T																			
870	732	738	627	616	715	738	425	616	143	125	337	870	870	738	173	616			
	T																		
143	870	738	616	173	279	425	738	173	598	172	821	732	870						

$1048 - 178 = \square \rightarrow \boxed{\text{T}}$

$880 - 165 = \square \rightarrow \boxed{\text{M}}$

$272 - 99 = \square \rightarrow \boxed{\text{D}}$

$362 - 25 = \square \rightarrow \boxed{\text{O}}$

$396 - 253 = \square \rightarrow \boxed{\text{S}}$

$1132 - 311 = \square \rightarrow \boxed{\text{G}}$

$905 - 173 = \square \rightarrow \boxed{\text{H}}$

$845 - 229 = \square \rightarrow \boxed{\text{A}}$

$197 - 72 = \square \rightarrow \boxed{\text{P}}$

$398 - 226 = \square \rightarrow \boxed{\text{I}}$

$657 - 59 = \square \rightarrow \boxed{\text{L}}$

$389 - 110 = \square \rightarrow \boxed{\text{Y}}$

$819 - 81 = \square \rightarrow \boxed{\text{E}}$

$994 - 367 = \square \rightarrow \boxed{\text{C}}$

$810 - 385 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 3

Addition

Adding up the energy cell counts across all storage bins unlocks the next data file.

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

L																		
359	426	469	803	521	426	234	869	569	869	850	986	469	869	569	803	767	343	569

940	426	767	767	426	869	767	986	359	359

$189 + 170 = \square \rightarrow \text{L}$

$334 + 516 = \square \rightarrow \text{C}$

$205 + 138 = \square \rightarrow \text{H}$

$438 + 329 = \square \rightarrow \text{T}$

$335 + 468 = \square \rightarrow \text{D}$

$588 + 281 = \square \rightarrow \text{S}$

$280 + 146 = \square \rightarrow \text{O}$

$101 + 133 = \square \rightarrow \text{I}$

$212 + 257 = \square \rightarrow \text{U}$

$626 + 360 = \square \rightarrow \text{A}$

$266 + 255 = \square \rightarrow \text{N}$

$316 + 624 = \square \rightarrow \text{B}$

$255 + 314 = \square \rightarrow \text{E}$

Scratch space:

CLUE 4 Place value

The central computer locks its vault using a three digit place value code.

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

W													
3000	9000	50	800	7000	6000	8000	20	40	300	800	200	9000	6000

2000	700	80	300	20	5000	20	6000	30	9000	6000	6000	20

What is the value of the 3 in 3,455? → **W**

What is the value of the 8 in 8,300? → **D**

What is the value of the 8 in 843? → **O**

What is the value of the 2 in 1,324? → **A**

What is the value of the 2 in 230? → **K**

What is the value of the 5 in 95,269? → **L**

What is the value of the 9 in 9,521? → **E**

What is the value of the 3 in 1,307? → **R**

What is the value of the 8 in 380? → **I**

What is the value of the 4 in 345? → **B**

What is the value of the 2 in 12,004? → **S**

What is the value of the 7 in 17,351? → **U**

What is the value of the 3 in 9,031? → **T**

What is the value of the 7 in 2,718? → **P**

What is the value of the 5 in 653? → **F**

What is the value of the 6 in 16,902? → **N**

Scratch space:

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

Sharing the power grid equally among the factory rooms helps decrypt the final message.

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:

$30 \div 10 = \square$

$45 \div 9 = \square$

$42 \div 6 = \square$

$110 \div 11 = \square$

$9 \div 1 = \square$

$16 \div 4 = \square$

$10 \div 10 = \square$

$32 \div 4 = \square$

$48 \div 4 = \square$

$16 \div 8 = \square$

$24 \div 4 = \square$

Step 2 - cross out the sentence with each answer:

1. The villain lit a plasma welder, then engaged a turbo booster.
2. The villain used a laser cutter, then engaged a turbo booster.
3. The villain spun a sonic drill, then beamed a tracker ray.
4. The villain fired a rivet gun, then beamed a tracker ray.
5. The villain cranked a hydraulic lift, then fired a magnet beam.
6. The villain lit a plasma welder, then raised a shield generator.
7. The villain spun a sonic drill, then engaged a turbo booster.
8. The villain lit a plasma welder, then beamed a tracker ray.
9. The villain fired a rivet gun, then activated a stealth cloak.
10. The villain spun a sonic drill, then activated a stealth cloak.
11. The villain spun a sonic drill, then raised a shield generator.
12. The villain lit a plasma welder, then activated a stealth cloak.

Answer Key

The Case of the Mischievous Mech

Culprit: Tracker

sonic drill · shield generator · steady red light · spiral antenna · loud noises

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A STEALTH CLOAK"

$11 \times 11 = 121$ (T) · $8 \times 8 = 64$ (S) · $12 \times 7 = 84$ (A) · $10 \times 6 = 60$ (D) · $11 \times 12 = 132$ (O) · $11 \times 5 = 55$ (K) · $1 \times 3 = 3$ (H) · $3 \times 7 = 21$ (N) · $7 \times 1 = 7$ (L) · $11 \times 6 = 66$ (U) · $8 \times 6 = 48$ (E) · $9 \times 11 = 99$ (V) · $11 \times 4 = 44$ (I) · $4 \times 10 = 40$ (C)

Clue 2 (Subtraction): "THE CAMERA SPOTTED A STEADY RED LIGHT"

$1048 - 178 = 870$ (T) · $880 - 165 = 715$ (M) · $272 - 99 = 173$ (D) · $362 - 25 = 337$ (O) · $396 - 253 = 143$ (S) · $1132 - 311 = 821$ (G) · $905 - 173 = 732$ (H) · $845 - 229 = 616$ (A) · $197 - 72 = 125$ (P) · $398 - 226 = 172$ (I) · $657 - 59 = 598$ (L) · $389 - 110 = 279$ (Y) · $819 - 81 = 738$ (E) · $994 - 367 = 627$ (C) · $810 - 385 = 425$ (R)

Clue 3 (Addition): "LOUD NOISES CAUSED THE BOT TO STALL"

$189 + 170 = 359$ (L) · $334 + 516 = 850$ (C) · $205 + 138 = 343$ (H) · $438 + 329 = 767$ (T) · $335 + 468 = 803$ (D) · $588 + 281 = 869$ (S) · $280 + 146 = 426$ (O) · $101 + 133 = 234$ (I) · $212 + 257 = 469$ (U) · $626 + 360 = 986$ (A) · $266 + 255 = 521$ (N) · $316 + 624 = 940$ (B) · $255 + 314 = 569$ (E)

Clue 4 (Place value): "WE FOUND A BROKEN SPIRAL ANTENNA"

What is the value of the 3 in 3,455? = 3000 (W) · What is the value of the 8 in 8,300? = 8000 (D) · What is the value of the 8 in 843? = 800 (O) · What is the value of the 2 in 1,324? = 20 (A) · What is the value of the 2 in 230? = 200 (K) · What is the value of the 5 in 95,269? = 5000 (L) · What is the value of the 9 in 9,521? = 9000 (E) · What is the value of the 3 in 1,307? = 300 (R) · What is the value of the 8 in 380? = 80 (I) · What is the value of the 4 in 345? = 40 (B) · What is the value of the 2 in 12,004? = 2000 (S) · What is the value of the 7 in 17,351? = 7000 (U) · What is the value of the 3 in 9,031? = 30 (T) · What is the value of the 7 in 2,718? = 700 (P) · What is the value of the 5 in 653? = 50 (F) · What is the value of the 6 in 16,902? = 6000 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Tracker

$30 \div 10 = 3$ · $45 \div 9 = 5$ · $42 \div 6 = 7$ · $110 \div 11 = 10$ · $9 \div 1 = 9$ · $16 \div 4 = 4$ · $10 \div 10 = 1$ · $32 \div 4 = 8$ · $48 \div 4 = 12$ · $16 \div 8 = 2$ · $24 \div 4 = 6$