



The Great Bolt City Chase

Grade 6 math · Multiplication, Percentages, Exponents, Order of operations, Division · Reading level grades 1-2

Detective: _____ Date: _____

Oh no! A sneaky rogue bot grabbed the Golden Gear from the Lead Inventor. The bot ran into the charging dock to hide. We must find them!

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	BACKUP TOOL	SPIN DIRECTION	ANTENNA TYPE	WEAKNESS
Geary	metal magnet	holo screen	right gear spin	star top	rust spray
Widget	jet boost	solar panel	right gear spin	fork top	salt water
Bolts	super spring	spark punch	left gear spin	fork top	salt water
Gizmo	laser beam	holo screen	right gear spin	fork top	magnet wand
Turbo	laser beam	holo screen	right gear spin	loop top	magnet wand
Beep	jet boost	sonic beep	left gear spin	fork top	magnet wand
Clank	super spring	spark punch	left gear spin	star top	salt water
Zippy	super spring	holo screen	left gear spin	star top	salt water
Flash	jet boost	spark punch	left gear spin	loop top	salt water
Digger	jet boost	sonic beep	right gear spin	star top	salt water
Sonic	laser beam	holo screen	right gear spin	star top	magnet wand
Sparky	turbo wheels	holo screen	left gear spin	star top	magnet wand
Cyber	laser beam	solar panel	right gear spin	fork top	salt water
Vector	turbo wheels	night vision	right gear spin	loop top	salt water
Rusty	super spring	spark punch	right gear spin	loop top	rust spray
Otto	laser beam	solar panel	left gear spin	star top	salt water
Circuit	super spring	solar panel	right gear spin	fork top	salt water
Pixel	metal magnet	sonic beep	right gear spin	loop top	rust spray
Chippy	metal magnet	night vision	left gear spin	star top	salt water
Buster	jet boost	night vision	left gear spin	star top	salt water
Volt	turbo wheels	night vision	right gear spin	fork top	magnet wand

CLUE 1

Multiplication facts (1-12)

We find a grid of battery packs on the floor. Max counts them in rows and columns. Solve this multiplication puzzle to see the first clue.

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

T								T												
81	88	3	30	32	11	32	81	96	32	3	33	9	32	81	16	33	3	10		
33	32	2	10	30	45	10	9	3	2											

$9 \times 9 = \square \rightarrow \text{T}$

$2 \times 1 = \square \rightarrow \text{L}$

$1 \times 11 = \square \rightarrow \text{B}$

$5 \times 6 = \square \rightarrow \text{R}$

$9 \times 5 = \square \rightarrow \text{P}$

$4 \times 4 = \square \rightarrow \text{U}$

$5 \times 2 = \square \rightarrow \text{A}$

$3 \times 11 = \square \rightarrow \text{S}$

$8 \times 4 = \square \rightarrow \text{O}$

$8 \times 11 = \square \rightarrow \text{H}$

$9 \times 1 = \square \rightarrow \text{N}$

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

$12 \times 8 = \square \rightarrow \text{D}$

Scratch space:

CLUE 2 Percentages

A computer screen shows how much power is left. The charge bar is partly full. Solve this percentage puzzle to read the secret screen.

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

T					T									T
8	18	1	3	2	8	31	13	32	4	31	14	1	29	8

$50\% \text{ of } 16 = \square \rightarrow \text{T}$

$5\% \text{ of } 580 = \square \rightarrow \text{F}$

$40\% \text{ of } 10 = \square \rightarrow \text{N}$

$50\% \text{ of } 36 = \square \rightarrow \text{H}$

$40\% \text{ of } 5 = \square \rightarrow \text{O}$

$5\% \text{ of } 20 = \square \rightarrow \text{E}$

$20\% \text{ of } 65 = \square \rightarrow \text{P}$

$10\% \text{ of } 30 = \square \rightarrow \text{B}$

$40\% \text{ of } 35 = \square \rightarrow \text{L}$

$20\% \text{ of } 160 = \square \rightarrow \text{I}$

$25\% \text{ of } 124 = \square \rightarrow \text{S}$

Scratch space:

CLUE 3

The robot left behind some tiny code boxes. Each box holds many more boxes inside it. Solve this exponent puzzle to unlock the box.

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

A number line from 0 to 144 with squares at intervals of 9. The square at 121 is shaded orange and labeled 'S'. The square at 144 is labeled 'E'.

Position	Value	Label
1	9	
2	18	
3	27	
4	36	
5	45	
6	54	
7	63	
8	72	
9	81	
10	90	
11	99	
12	108	
13	117	
14	126	
15	135	
16	144	E

$$2^3 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$7^2 = \boxed{} \rightarrow \boxed{1}$$

$$3^3 = \boxed{} \rightarrow \boxed{0}$$

Scratch space:

CLUE 4

Order of operations

To open the lab safe we must press the buttons in the exact right order. Solve this order of operations puzzle to open it.

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

T					T						T		
45	53	8	73	10	45	53	49	34	49	34	45	49	61
		T											
49	48	45	8	48	48	49							

$35 + 5 \times 2 = \square \rightarrow \boxed{\text{T}}$

$10 + 8 \times 3 = \square \rightarrow \boxed{\text{S}}$

$9 \times 10 - 29 = \square \rightarrow \boxed{\text{R}}$

$16 + 8 \times 4 = \square \rightarrow \boxed{\text{N}}$

$8 \times 12 - 23 = \square \rightarrow \boxed{\text{B}}$

$5 \times 12 - 11 = \square \rightarrow \boxed{\text{A}}$

$2 + 2 \times 3 = \square \rightarrow \boxed{\text{E}}$

$9 \times 8 - 19 = \square \rightarrow \boxed{\text{H}}$

$4 + 3 \times 2 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

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

The oil cans must be shared equally among the small helper bots. Each bot gets the same amount. Solve this division puzzle for the last 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:

$24 \div 8 = \boxed{}$

$110 \div 10 = \boxed{}$

$8 \div 4 = \boxed{}$

$10 \div 10 = \boxed{}$

$108 \div 9 = \boxed{}$

$36 \div 6 = \boxed{}$

$8 \div 1 = \boxed{}$

$7 \div 1 = \boxed{}$

$28 \div 7 = \boxed{}$

$72 \div 8 = \boxed{}$

$110 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blasts a laser beam, then flashes a holo screen.
2. The villain flies with a jet boost, then shines night vision.
3. The villain jumps with a super spring, then flashes a holo screen.
4. The villain uses a metal magnet, then flashes a holo screen.
5. The villain jumps with a super spring, then throws a spark punch.
6. The villain blasts a laser beam, then shines night vision.
7. The villain flies with a jet boost, then flashes a holo screen.
8. The villain blasts a laser beam, then makes a sonic beep.
9. The villain zooms on turbo wheels, then unfolds a solar panel.
10. The villain uses a metal magnet, then makes a sonic beep.
11. The villain uses a metal magnet, then shines night vision.
12. The villain flies with a jet boost, then unfolds a solar panel.

Answer Key

The Great Bolt City Chase

Culprit: Clank

super spring · spark punch · left gear spin · star top · salt water

Trail: Start 21 → Clue 1 17 → Clue 2 8 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE ROBOT DOES NOT USE A SOLAR PANEL"

$9 \times 9 = 81$ (T) · $2 \times 1 = 2$ (L) · $1 \times 11 = 11$ (B) · $5 \times 6 = 30$ (R) · $9 \times 5 = 45$ (P) · $4 \times 4 = 16$ (U) · $5 \times 2 = 10$ (A) · $3 \times 11 = 33$ (S) · $8 \times 4 = 32$ (O) · $8 \times 11 = 88$ (H) · $9 \times 1 = 9$ (N) · $3 \times 1 = 3$ (E) · $12 \times 8 = 96$ (D)

Clue 2 (Percentages): "THE BOT SPINS LEFT"

50% of 16 = 8 (T) · 5% of 580 = 29 (F) · 40% of 10 = 4 (N) · 50% of 36 = 18 (H) · 40% of 5 = 2 (O) · 5% of 20 = 1 (E) · 20% of 65 = 13 (P) · 10% of 30 = 3 (B) · 40% of 35 = 14 (L) · 20% of 160 = 32 (I) · 25% of 124 = 31 (S)

Clue 3 (Exponents): "SALT WATER WILL STOP THE BOT"

$11^2 = 121$ (S) · $8^2 = 64$ (W) · $6^2 = 36$ (R) · $2^3 = 8$ (B) · $13^2 = 169$ (E) · $12^2 = 144$ (P) · $10^2 = 100$ (A) · $7^2 = 49$ (I) · $6^3 = 216$ (L) · $3^2 = 9$ (T) · $2^4 = 16$ (H) · $3^3 = 27$ (O)

Clue 4 (Order of operations): "THE BOT HAS A STAR ANTENNA"

$35 + 5 \times 2 = 45$ (T) · $10 + 8 \times 3 = 34$ (S) · $9 \times 10 - 29 = 61$ (R) · $16 + 8 \times 4 = 48$ (N) · $8 \times 12 - 23 = 73$ (B) · $5 \times 12 - 11 = 49$ (A) · $2 + 2 \times 3 = 8$ (E) · $9 \times 8 - 19 = 53$ (H) · $4 + 3 \times 2 = 10$ (O)

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

$24 \div 8 = 3$ · $110 \div 10 = 11$ · $8 \div 4 = 2$ · $10 \div 10 = 1$ · $108 \div 9 = 12$ · $36 \div 6 = 6$ · $8 \div 1 = 8$ · $7 \div 1 = 7$ · $28 \div 7 = 4$ · $72 \div 8 = 9$ · $110 \div 11 = 10$