



The Code Room Glitch

Grade 10 math · Multiplication, Pythagorean theorem, Square roots, Exponents, Division · Reading level grades 1-2

Detective: _____ **Date:** _____

A sneaky glitch hacker locked the main game server! Our system is down. We need to find the hacker before the screen goes totally blank.

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 glitch hacker is _____

Possible suspects

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

NAME	HACKING TOOL	COMPANION BOT	TYPING HAND	LED GLOW COLOR	SYSTEM BUG
Dex Byte	code injector	hover-bot	right handed	bright green	power drains
Katherine Johnson	signal jammer	spider-bot	left handed	neon blue	water spills
Guido van Rossum	worm drive	spider-bot	left handed	bright green	power drains
Meg Hertz	worm drive	robo-dog	left handed	neon blue	magnet fields
Max Chip	worm drive	neon-cat	left handed	neon blue	power drains
Joy Buolamwini	code injector	spider-bot	left handed	neon blue	magnet fields
Grace Hopper	signal jammer	spider-bot	left handed	bright green	water spills
Bill Gates	worm drive	hover-bot	left handed	neon blue	magnet fields
Ada Lovelace	code injector	neon-cat	right handed	neon blue	magnet fields
Alan Turing	worm drive	hover-bot	right handed	laser red	magnet fields
Margaret Hamilton	signal jammer	hover-bot	left handed	neon blue	magnet fields
Tim Berners Lee	signal jammer	micro-drone	left handed	laser red	magnet fields
Linus Torvalds	bypass key	robo-dog	left handed	laser red	water spills
Hedy Lamarr	data cloner	micro-drone	left handed	neon blue	magnet fields
Pip Ram	signal jammer	spider-bot	left handed	neon blue	magnet fields
Steve Wozniak	bypass key	hover-bot	left handed	laser red	magnet fields
Sheryl Sandberg	bypass key	neon-cat	left handed	neon blue	power drains
Sam Disk	code injector	robo-dog	right handed	neon blue	magnet fields
Radia Perlman	data cloner	micro-drone	left handed	laser red	water spills
Gordon Moore	code injector	spider-bot	left handed	laser red	water spills
Mia Vector	data cloner	neon-cat	right handed	neon blue	water spills

CLUE 1

Multiplication facts (1-12)

We count rows of glowing tablet screens to find the first code clue.

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

T						T													
11	8	56	24	72	32	11	70	8	8	15	70	77	56	25	28	50	56	110	
		T															T		
55	50	11	8	15	132	56	15	110	7	32	28	56	25	2	50	11			

$1 \times 11 = \square \rightarrow \boxed{\text{T}}$

$3 \times 8 = \square \rightarrow \boxed{\text{G}}$

$4 \times 8 = \square \rightarrow \boxed{\text{I}}$

$1 \times 7 = \square \rightarrow \boxed{\text{P}}$

$8 \times 7 = \square \rightarrow \boxed{\text{E}}$

$7 \times 11 = \square \rightarrow \boxed{\text{K}}$

$11 \times 12 = \square \rightarrow \boxed{\text{V}}$

$5 \times 3 = \square \rightarrow \boxed{\text{A}}$

$1 \times 2 = \square \rightarrow \boxed{\text{B}}$

$11 \times 10 = \square \rightarrow \boxed{\text{S}}$

$9 \times 8 = \square \rightarrow \boxed{\text{L}}$

$7 \times 4 = \square \rightarrow \boxed{\text{D}}$

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

$4 \times 2 = \square \rightarrow \boxed{\text{H}}$

$11 \times 5 = \square \rightarrow \boxed{\text{N}}$

$5 \times 10 = \square \rightarrow \boxed{\text{O}}$

$10 \times 7 = \square \rightarrow \boxed{\text{C}}$

Scratch space:

CLUE 2

Pythagorean theorem

The team measures a diagonal laser beam to map the escape route.

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

T										T	T									T	
39	100	40	116	52	116	82	40	51	39	39	29	82	40	111	26	15	39	100			
				T									T								
37	123	75	29	39	100	40	15	65	75	40	34	39	100	87	123	111					

legs 15 and 36, hypotenuse = → **T**

legs 16 and 30, hypotenuse = → **F**

legs 20 and 48, hypotenuse = → **U**

legs 12 and 35, hypotenuse = → **O**

legs 24 and 45, hypotenuse = → **C**

legs 21 and 72, hypotenuse = → **L**

legs 36 and 105, hypotenuse = → **D**

legs 20 and 21, hypotenuse = → **Y**

legs 10 and 24, hypotenuse = → **W**

legs 25 and 60, hypotenuse = → **R**

legs 24 and 32, hypotenuse = → **E**

legs 9 and 12, hypotenuse = → **I**

legs 60 and 63, hypotenuse = → **A**

legs 28 and 96, hypotenuse = → **H**

legs 27 and 120, hypotenuse = → **N**

legs 80 and 84, hypotenuse = → **S**

legs 18 and 80, hypotenuse = → **P**

Scratch space:

CLUE 3

Square roots

We find a square chip grid and look for its side length.

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

T															
16	4	2	4	13	18	14	2	7	7	13	6	13	8	13	15
					T										T
25	7	19	9	23	16	5	18	14	15	9	13	21	6	2	16
25	5	2	11	24	23										

$\sqrt{256} = \square \rightarrow \boxed{\text{T}}$

$\sqrt{529} = \square \rightarrow \boxed{\text{S}}$

$\sqrt{225} = \square \rightarrow \boxed{\text{Y}}$

$\sqrt{81} = \square \rightarrow \boxed{\text{M}}$

$\sqrt{64} = \square \rightarrow \boxed{\text{W}}$

$\sqrt{4} = \square \rightarrow \boxed{\text{E}}$

$\sqrt{441} = \square \rightarrow \boxed{\text{G}}$

$\sqrt{324} = \square \rightarrow \boxed{\text{C}}$

$\sqrt{361} = \square \rightarrow \boxed{\text{O}}$

$\sqrt{16} = \square \rightarrow \boxed{\text{H}}$

$\sqrt{576} = \square \rightarrow \boxed{\text{D}}$

$\sqrt{625} = \square \rightarrow \boxed{\text{F}}$

$\sqrt{169} = \square \rightarrow \boxed{\text{A}}$

$\sqrt{196} = \square \rightarrow \boxed{\text{K}}$

$\sqrt{25} = \square \rightarrow \boxed{\text{I}}$

$\sqrt{36} = \square \rightarrow \boxed{\text{N}}$

$\sqrt{49} = \square \rightarrow \boxed{\text{R}}$

$\sqrt{121} = \square \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 4 Exponents

A giant bug multiplies its size very fast as it copies itself.

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

T																			
196	729	4	128	289	25	8	81	512	128	512	4	25	512	36	289	324	4		
8	81	343	4	144	8	4	343	4	289	4	216	196	36	4	729	81	512	32	

$14^2 = \square \rightarrow$ T	$2^9 = \square \rightarrow$ N	$7^3 = \square \rightarrow$ R	$5^2 = \square \rightarrow$ O
$18^2 = \square \rightarrow$ U	$6^2 = \square \rightarrow$ B	$2^5 = \square \rightarrow$ D	$2^7 = \square \rightarrow$ G
$2^2 = \square \rightarrow$ E	$6^3 = \square \rightarrow$ F	$12^2 = \square \rightarrow$ S	$17^2 = \square \rightarrow$ L
$3^6 = \square \rightarrow$ H	$3^4 = \square \rightarrow$ I	$2^3 = \square \rightarrow$ W	

Scratch space:

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

We split the clean power cells evenly among the five recovery bots.

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:

$49 \div 7 = \boxed{}$

$50 \div 10 = \boxed{}$

$4 \div 2 = \boxed{}$

$72 \div 8 = \boxed{}$

$16 \div 2 = \boxed{}$

$33 \div 3 = \boxed{}$

$5 \div 5 = \boxed{}$

$40 \div 4 = \boxed{}$

$48 \div 8 = \boxed{}$

$48 \div 4 = \boxed{}$

$24 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain boots a data cloner to steal the database, then deploys a robo-dog to guard the hallway.
2. The villain boots a data cloner to steal the database, then launches a micro-drone to record the room.
3. The villain runs a worm drive to copy the secret keys, then deploys a robo-dog to guard the hallway.
4. The villain uses a bypass key to unlock the vault, then whistles for a spider-bot to climb the walls.
5. The villain runs a worm drive to copy the secret keys, then activates a hover-bot to carry the loot.
6. The villain runs a worm drive to copy the secret keys, then launches a micro-drone to record the room.
7. The villain sends a signal jammer to mute the alarms, then activates a hover-bot to carry the loot.
8. The villain types with a code injector to rewrite files, then deploys a robo-dog to guard the hallway.
9. The villain boots a data cloner to steal the database, then calls a neon-cat to distract the night guard.
10. The villain types with a code injector to rewrite files, then whistles for a spider-bot to climb the walls.
11. The villain sends a signal jammer to mute the alarms, then whistles for a spider-bot to climb the walls.
12. The villain runs a worm drive to copy the secret keys, then whistles for a spider-bot to climb the walls.

Answer Key

The Code Room Glitch

Culprit: Meg Hertz

worm drive · robo-dog · left handed · neon blue · magnet fields

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE GLITCH HACKER DOES NOT HAVE A SPIDER BOT"

$1 \times 11 = 11$ (T) · $3 \times 8 = 24$ (G) · $4 \times 8 = 32$ (I) · $1 \times 7 = 7$ (P) · $8 \times 7 = 56$ (E) · $7 \times 11 = 77$ (K) · $11 \times 12 = 132$ (V) · $5 \times 3 = 15$ (A) · $1 \times 2 = 2$ (B) · $11 \times 10 = 110$ (S) · $9 \times 8 = 72$ (L) · $7 \times 4 = 28$ (D) · $5 \times 5 = 25$ (R) · $4 \times 2 = 8$ (H) · $11 \times 5 = 55$ (N) · $5 \times 10 = 50$ (O) · $10 \times 7 = 70$ (C)

Clue 2 (Pythagorean theorem): "THE SUSPECT TYPED WITH ONLY THEIR LEFT HAND"

legs 15 and 36, hypotenuse = 39 (T) · legs 16 and 30, hypotenuse = 34 (F) · legs 20 and 48, hypotenuse = 52 (U) · legs 12 and 35, hypotenuse = 37 (O) · legs 24 and 45, hypotenuse = 51 (C) · legs 21 and 72, hypotenuse = 75 (L) · legs 36 and 105, hypotenuse = 111 (D) · legs 20 and 21, hypotenuse = 29 (Y) · legs 10 and 24, hypotenuse = 26 (W) · legs 25 and 60, hypotenuse = 65 (R) · legs 24 and 32, hypotenuse = 40 (E) · legs 9 and 12, hypotenuse = 15 (I) · legs 60 and 63, hypotenuse = 87 (A) · legs 28 and 96, hypotenuse = 100 (H) · legs 27 and 120, hypotenuse = 123 (N) · legs 80 and 84, hypotenuse = 116 (S) · legs 18 and 80, hypotenuse = 82 (P)

Clue 3 (Square roots): "THE HACKER RAN AWAY FROM STICKY MAGNET FIELDS"

$\sqrt{256} = 16$ (T) · $\sqrt{529} = 23$ (S) · $\sqrt{225} = 15$ (Y) · $\sqrt{81} = 9$ (M) · $\sqrt{64} = 8$ (W) · $\sqrt{4} = 2$ (E) · $\sqrt{441} = 21$ (G) · $\sqrt{324} = 18$ (C) · $\sqrt{361} = 19$ (O) · $\sqrt{16} = 4$ (H) · $\sqrt{576} = 24$ (D) · $\sqrt{625} = 25$ (F) · $\sqrt{169} = 13$ (A) · $\sqrt{196} = 14$ (K) · $\sqrt{25} = 5$ (I) · $\sqrt{36} = 6$ (N) · $\sqrt{49} = 7$ (R) · $\sqrt{121} = 11$ (L)

Clue 4 (Exponents): "THE GLOWING NEON BLUE WIRES WERE LEFT BEHIND"

$14^2 = 196$ (T) · $2^9 = 512$ (N) · $7^3 = 343$ (R) · $5^2 = 25$ (O) · $18^2 = 324$ (U) · $6^2 = 36$ (B) · $2^5 = 32$ (D) · $2^7 = 128$ (G) · $2^2 = 4$ (E) · $6^3 = 216$ (F) · $12^2 = 144$ (S) · $17^2 = 289$ (L) · $3^6 = 729$ (H) · $3^4 = 81$ (I) · $2^3 = 8$ (W)

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

$49 \div 7 = 7$ · $50 \div 10 = 5$ · $4 \div 2 = 2$ · $72 \div 8 = 9$ · $16 \div 2 = 8$ · $33 \div 3 = 11$ · $5 \div 5 = 1$ · $40 \div 4 = 10$ · $48 \div 8 = 6$ · $48 \div 4 = 12$ · $24 \div 6 = 4$