



The Great Golden Groaner Heist

Grade 10 math · Pythagorean theorem, Square roots, Exponents, Order of operations · Reading level grades 7-9

Detective: _____ Date: _____

The Golden Groaner trophy has been swiped right before the annual pun championship. The culprit left a trail of terrible wordplay. We need to crack the clues, solve the equations, and find the real comic genius who turned criminal!

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 Joke Burglar is _____

Possible suspects

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

NAME	COMEDY STYLE	STAGE PROP	DOMINANT HAND	WIG STYLE	KRYPTONITE
Anita Bath	Double Entendre	Whoopee Cushion	Right-handed writer	Lime Green Mullet	Literal Explanations
Luke Warm	Double Entendre	Chattering Teeth	Left-handed writer	Neon Pink Mohawk	Awkward Hecklers
Paige Turner	Double Entendre	Chattering Teeth	Right-handed writer	Neon Pink Mohawk	Awkward Hecklers
Tim Ber	Sarcasm Blast	Chattering Teeth	Left-handed writer	Lime Green Mullet	Literal Explanations
Holly Wood	Irony Shield	Squirting Flower	Right-handed writer	Bright Blue Afro	Literal Explanations
Warren Peace	Spoonerism Spell	Whoopee Cushion	Right-handed writer	Lime Green Mullet	Awkward Hecklers
Manny Kinn	Sarcasm Blast	Chattering Teeth	Right-handed writer	Neon Pink Mohawk	Awkward Hecklers
Carrie Oakey	Irony Shield	Squirting Flower	Right-handed writer	Neon Pink Mohawk	Awkward Hecklers
Penny Wise	Irony Shield	Laugh Track	Left-handed writer	Bright Blue Afro	Total Silence
Artie Choke	Groan Generator	Laugh Track	Left-handed writer	Lime Green Mullet	Awkward Hecklers
Barb Dwyer	Sarcasm Blast	Laugh Track	Right-handed writer	Neon Pink Mohawk	Awkward Hecklers
Ray Sun	Sarcasm Blast	Helium Mic	Right-handed writer	Neon Pink Mohawk	Literal Explanations
Jack Pott	Double Entendre	Helium Mic	Left-handed writer	Lime Green Mullet	Literal Explanations
Barry Cade	Double Entendre	Whoopee Cushion	Right-handed writer	Bright Blue Afro	Total Silence
Herb Garden	Double Entendre	Squirting Flower	Left-handed writer	Lime Green Mullet	Total Silence
Gale Force	Irony Shield	Chattering Teeth	Right-handed writer	Neon Pink Mohawk	Awkward Hecklers
Robin Banks	Irony Shield	Laugh Track	Left-handed writer	Neon Pink Mohawk	Literal Explanations
Ella Vator	Spoonerism Spell	Helium Mic	Left-handed writer	Neon Pink Mohawk	Awkward Hecklers
Otto Mobile	Spoonerism Spell	Chattering Teeth	Right-handed writer	Lime Green Mullet	Awkward Hecklers
Doug Deep	Sarcasm Blast	Helium Mic	Right-handed writer	Lime Green Mullet	Literal Explanations
Sharon Whiplash	Sarcasm Blast	Helium Mic	Right-handed writer	Neon Pink Mohawk	Total Silence

CLUE 1

Pythagorean theorem

To catch the thief's path across the courtyard, we must find the direct diagonal distance between the joke vault and the punchline gate.

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

T										T					
100	87	40	26	30	26	37	40	15	100	87	5	26	50	25	
					T										
26	68	30	75	74	100	75	50	20	58	13	25	41	40	74	

legs 28 and 96, hypotenuse = → **T**

legs 5 and 12, hypotenuse = → **L**

legs 60 and 63, hypotenuse = → **H**

legs 12 and 16, hypotenuse = → **G**

legs 3 and 4, hypotenuse = → **A**

legs 32 and 60, hypotenuse = → **Q**

legs 24 and 32, hypotenuse = → **E**

legs 9 and 12, hypotenuse = → **C**

legs 21 and 72, hypotenuse = → **I**

legs 9 and 40, hypotenuse = → **W**

legs 24 and 70, hypotenuse = → **R**

legs 7 and 24, hypotenuse = → **O**

legs 14 and 48, hypotenuse = → **N**

legs 40 and 42, hypotenuse = → **F**

legs 10 and 24, hypotenuse = → **S**

legs 12 and 35, hypotenuse = → **P**

legs 18 and 24, hypotenuse = → **U**

Scratch space:

CLUE 2 Square roots

The thief dropped a grid of joke-cards on a perfectly square stage. We can find the stage side length by finding the square root of the total area.

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

T							T												T
20	16	17	13	21	22	20	22	12	14	13	3	24	21	22	14	16	20		
16	3	12	2	17	2														

$\text{sqrt}(400) = \square \rightarrow \text{T}$	$\text{sqrt}(289) = \square \rightarrow \text{E}$	$\text{sqrt}(169) = \square \rightarrow \text{W}$
$\text{sqrt}(576) = \square \rightarrow \text{S}$	$\text{sqrt}(196) = \square \rightarrow \text{G}$	$\text{sqrt}(484) = \square \rightarrow \text{I}$
$\text{sqrt}(256) = \square \rightarrow \text{H}$	$\text{sqrt}(144) = \square \rightarrow \text{N}$	$\text{sqrt}(4) = \square \rightarrow \text{D}$
$\text{sqrt}(9) = \square \rightarrow \text{A}$	$\text{sqrt}(441) = \square \rightarrow \text{R}$	

Scratch space:

CLUE 3 Exponents

The groan-worthy puns are multiplying exponentially! If we calculate the power of their growth over time, we can pinpoint the exact moment of the heist.

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

T																			
121	25	441	324	196	128	16	225	361	169	441	144	16	484	144	441	128	361	125	144

25	441	196	729	169	256	484	243

$11^2 = \square \rightarrow \text{T}$	$18^2 = \square \rightarrow \text{Y}$	$3^6 = \square \rightarrow \text{K}$	$4^2 = \square \rightarrow \text{U}$
$5^2 = \square \rightarrow \text{H}$	$14^2 = \square \rightarrow \text{C}$	$2^7 = \square \rightarrow \text{R}$	$21^2 = \square \rightarrow \text{E}$
$12^2 = \square \rightarrow \text{D}$	$5^3 = \square \rightarrow \text{A}$	$22^2 = \square \rightarrow \text{N}$	$3^5 = \square \rightarrow \text{G}$
$13^2 = \square \rightarrow \text{L}$	$16^2 = \square \rightarrow \text{I}$	$19^2 = \square \rightarrow \text{B}$	$15^2 = \square \rightarrow \text{M}$

Scratch space:

CLUE 4
Order of operations

The getaway manual lists steps that must be solved in a strict sequence. Following the exact order of operations reveals the culprit's secret escape code.

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

A										A									
48	104	100	52	104	53	79	104	77	18	48	79	110	85	45	110	48	104	57	

	A					
26	48	85	11	52	116	104

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

$9 \times 7 - 10 = \boxed{} \rightarrow \boxed{\text{P}}$

$7 \times 12 - 27 = \boxed{} \rightarrow \boxed{\text{D}}$

$9 \times 10 - 13 = \boxed{} \rightarrow \boxed{\text{K}}$

$34 + 9 \times 2 = \boxed{} \rightarrow \boxed{\text{O}}$

$10 \times 12 - 16 = \boxed{} \rightarrow \boxed{\text{N}}$

$11 \times 8 - 3 = \boxed{} \rightarrow \boxed{\text{S}}$

$2 \times 12 - 6 = \boxed{} \rightarrow \boxed{\text{H}}$

$6 + 4 \times 5 = \boxed{} \rightarrow \boxed{\text{W}}$

$75 + 2 \times 2 = \boxed{} \rightarrow \boxed{\text{I}}$

$4 \times 4 - 5 = \boxed{} \rightarrow \boxed{\text{F}}$

$82 + 9 \times 2 = \boxed{} \rightarrow \boxed{\text{E}}$

$9 + 9 \times 4 = \boxed{} \rightarrow \boxed{\text{T}}$

$10 \times 12 - 10 = \boxed{} \rightarrow \boxed{\text{R}}$

$74 + 6 \times 7 = \boxed{} \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 5**Square roots - the last clue**

A square patch of carpet in the pun parlor was scorched by a bad joke. Finding the square root of the damaged square area gives us our final coordinates.

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:

$\text{sqrt}(144) = \boxed{}$

$\text{sqrt}(36) = \boxed{}$

$\text{sqrt}(16) = \boxed{}$

$\text{sqrt}(81) = \boxed{}$

$\text{sqrt}(9) = \boxed{}$

$\text{sqrt}(49) = \boxed{}$

$\text{sqrt}(4) = \boxed{}$

$\text{sqrt}(64) = \boxed{}$

$\text{sqrt}(121) = \boxed{}$

$\text{sqrt}(100) = \boxed{}$

$\text{sqrt}(25) = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blocked the guards with an irony shield, then wound up some fake chattering teeth.
2. The villain blasted a terrible groan generator, then blared an annoying laugh track.
3. The villain blocked the guards with an irony shield, then sprayed everyone with a squirting flower.
4. The villain confused the room with double entendres, then wound up some fake chattering teeth.
5. The villain blasted a terrible groan generator, then wound up some fake chattering teeth.
6. The villain unleashed a devastating sarcasm blast, then wound up some fake chattering teeth.
7. The villain cast a confusing spoonerism spell, then wound up some fake chattering teeth.
8. The villain confused the room with double entendres, then sprayed everyone with a squirting flower.
9. The villain blasted a terrible groan generator, then shrieked into a helium mic.
10. The villain confused the room with double entendres, then shrieked into a helium mic.
11. The villain blocked the guards with an irony shield, then shrieked into a helium mic.
12. The villain unleashed a devastating sarcasm blast, then blared an annoying laugh track.

Answer Key

The Great Golden Groaner Heist

Culprit: Gale Force

Irony Shield · Chattering Teeth · Right-handed writer · Neon Pink Mohawk · Awkward Hecklers

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Pythagorean theorem): "THE SUSPECT HAS NO SQUIRTING FLOWER"

legs 28 and 96, hypotenuse = 100 (T) · legs 5 and 12, hypotenuse = 13 (L) · legs 60 and 63, hypotenuse = 87 (H) · legs 12 and 16, hypotenuse = 20 (G) · legs 3 and 4, hypotenuse = 5 (A) · legs 32 and 60, hypotenuse = 68 (Q) · legs 24 and 32, hypotenuse = 40 (E) · legs 9 and 12, hypotenuse = 15 (C) · legs 21 and 72, hypotenuse = 75 (I) · legs 9 and 40, hypotenuse = 41 (W) · legs 24 and 70, hypotenuse = 74 (R) · legs 7 and 24, hypotenuse = 25 (O) · legs 14 and 48, hypotenuse = 50 (N) · legs 40 and 42, hypotenuse = 58 (F) · legs 10 and 24, hypotenuse = 26 (S) · legs 12 and 35, hypotenuse = 37 (P) · legs 18 and 24, hypotenuse = 30 (U)

Clue 2 (Square roots): "THE WRITING WAS RIGHT HANDED"

$\sqrt{400} = 20$ (T) · $\sqrt{289} = 17$ (E) · $\sqrt{169} = 13$ (W) · $\sqrt{576} = 24$ (S) · $\sqrt{196} = 14$ (G) · $\sqrt{484} = 22$ (I) · $\sqrt{256} = 16$ (H) · $\sqrt{144} = 12$ (N) · $\sqrt{4} = 2$ (D) · $\sqrt{9} = 3$ (A) · $\sqrt{441} = 21$ (R)

Clue 3 (Exponents): "THEY CRUMBLLED UNDER BAD HECKLING"

$11^2 = 121$ (T) · $18^2 = 324$ (Y) · $3^6 = 729$ (K) · $4^2 = 16$ (U) · $5^2 = 25$ (H) · $14^2 = 196$ (C) · $2^7 = 128$ (R) · $21^2 = 441$ (E) · $12^2 = 144$ (D) · $5^3 = 125$ (A) · $22^2 = 484$ (N) · $3^5 = 243$ (G) · $13^2 = 169$ (L) · $16^2 = 256$ (I) · $19^2 = 361$ (B) · $15^2 = 225$ (M)

Clue 4 (Order of operations): "A NEON PINK HAIR STRAND WAS FOUND"

$16 + 8 \times 4 = 48$ (A) · $9 \times 7 - 10 = 53$ (P) · $7 \times 12 - 27 = 57$ (D) · $9 \times 10 - 13 = 77$ (K) · $34 + 9 \times 2 = 52$ (O) · $10 \times 12 - 16 = 104$ (N) · $11 \times 8 - 3 = 85$ (S) · $2 \times 12 - 6 = 18$ (H) · $6 + 4 \times 5 = 26$ (W) · $75 + 2 \times 2 = 79$ (I) · $4 \times 4 - 5 = 11$ (F) · $82 + 9 \times 2 = 100$ (E) · $9 + 9 \times 4 = 45$ (T) · $10 \times 12 - 10 = 110$ (R) · $74 + 6 \times 7 = 116$ (U)

Clue 5 (Square roots): surviving statement is box 1 → Gale Force

$\sqrt{144} = 12$ · $\sqrt{36} = 6$ · $\sqrt{16} = 4$ · $\sqrt{81} = 9$ · $\sqrt{9} = 3$ · $\sqrt{49} = 7$ · $\sqrt{4} = 2$ · $\sqrt{64} = 8$ · $\sqrt{121} = 11$ · $\sqrt{100} = 10$ · $\sqrt{25} = 5$