The Mystery of the Missing Golden Vinyl

Grade 6 math · Percentages, Exponents, Order of operations, Multiplication, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Tonight is the annual Midnight Meow Party at the Neon Scratch Lounge, but someone stole the Golden Vinyl Trophy right off the DJ booth! The dance floor is in complete chaos. Work with Detective Whiskers to analyze the clues and catch the furry culprit before the party ends.

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 Beat Thief is _____

Possible suspects

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

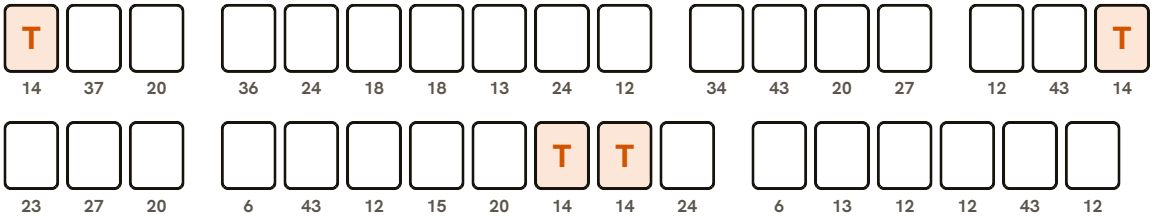
NAME	MAIN DJ MOVE	STAGE EFFECT	SCRATCH HABIT	FUR TYPE	DISTRACTION
DJ Clawed	Synth Blast	Turntable Lock	Left Paw Scratch	Black Fur	Catnip Tea
Hazel Harmony	Bass Boost	Strobe Light	Left Paw Scratch	Calico Fur	Yarn Ball
DJ Scratchy	Bass Boost	Turntable Lock	Left Paw Scratch	Calico Fur	Laser Pointer
Jasper Jive	Synth Blast	Strobe Light	Left Paw Scratch	Calico Fur	Laser Pointer
Binx Treble	Bass Boost	Strobe Light	Left Paw Scratch	Black Fur	Laser Pointer
Barnaby Bass	Vinyl Scratch	Confetti Cannon	Left Paw Scratch	Calico Fur	Laser Pointer
Cleo Crossfader	Synth Blast	Confetti Cannon	Left Paw Scratch	Black Fur	Laser Pointer
Meowstro	Synth Blast	Fog Machine	Left Paw Scratch	Black Fur	Yarn Ball
Oliver Octave	Laser Flash	Glow Sticks	Left Paw Scratch	Black Fur	Yarn Ball
Toby Tempo	Synth Blast	Turntable Lock	Right Paw Scratch	Calico Fur	Laser Pointer
DJ Purrfect	Bass Boost	Glow Sticks	Right Paw Scratch	Calico Fur	Laser Pointer
Ziggy Zildjian	Laser Flash	Turntable Lock	Left Paw Scratch	Black Fur	Catnip Tea
Luna Loop	Smoke Fog	Fog Machine	Right Paw Scratch	Black Fur	Yarn Ball
MC Whiskers	Bass Boost	Strobe Light	Left Paw Scratch	Calico Fur	Laser Pointer
Sam Synth	Smoke Fog	Confetti Cannon	Left Paw Scratch	Orange Fur	Yarn Ball
Milo Mix	Bass Boost	Confetti Cannon	Left Paw Scratch	Calico Fur	Yarn Ball
Alley Cat	Laser Flash	Strobe Light	Left Paw Scratch	Calico Fur	Yarn Ball
Felix Groove	Synth Blast	Glow Sticks	Right Paw Scratch	Black Fur	Catnip Tea
Beats Tabby	Vinyl Scratch	Turntable Lock	Right Paw Scratch	Calico Fur	Laser Pointer
Bella Beatbox	Smoke Fog	Turntable Lock	Left Paw Scratch	Black Fur	Laser Pointer
Rosie Rhythm	Laser Flash	Strobe Light	Left Paw Scratch	Calico Fur	Laser Pointer

make your own at mathcrackers.com

CLUE 1 Percentages

The digital soundboard displays power levels in percentages to reveal the mystery clue.

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



5% of 280 = ☐ → T

10% of 370 = ☐ → H

5% of 400 = ☐ → E

5% of 260 = ☐ → A

10% of 150 = ☐ → F

75% of 8 = ☐ → C

20% of 135 = ☐ → S

20% of 170 = ☐ → D

50% of 72 = ☐ → V

10% of 180 = ☐ → L

50% of 46 = ☐ → U

25% of 96 = ☐ → I

50% of 86 = ☐ → O

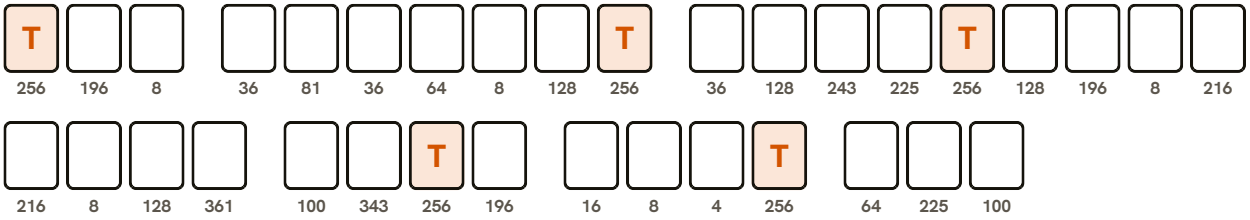
5% of 240 = ☐ → N

Scratch space:

CLUE 2 Exponents

To boost the equalizer output, calculate the exponential speaker stack rating.

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



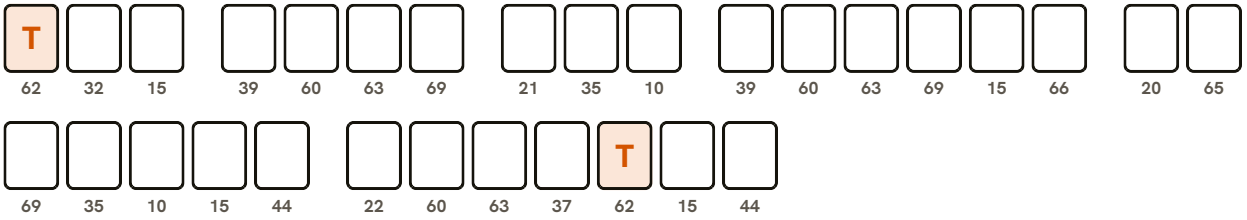
2^8 = ☐ → T	2^7 = ☐ → C	10^2 = ☐ → W	3^5 = ☐ → R
6^3 = ☐ → D	2^2 = ☐ → F	19^2 = ☐ → K	2^4 = ☐ → L
2^6 = ☐ → P	6^2 = ☐ → S	7^3 = ☐ → I	3^4 = ☐ → U
14^2 = ☐ → H	15^2 = ☐ → A	2^3 = ☐ → E	

Scratch space:

CLUE 3 Order of operations

> Follow the strict order of operations to calibrate the master audio controls.

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



52 + 5 × 2 = ☐ → T

10 + 3 × 4 = ☐ → P

9 + 9 × 6 = ☐ → I

11 + 3 × 3 = ☐ → B

11 × 6 - 1 = ☐ → Y

23 + 4 × 4 = ☐ → F

5 × 8 - 25 = ☐ → E

7 + 2 × 7 = ☐ → W

12 × 4 - 11 = ☐ → N

57 + 3 × 3 = ☐ → D

15 + 5 × 9 = ☐ → O

1 + 3 × 3 = ☐ → S

8 × 8 - 20 = ☐ → R

8 × 10 - 11 = ☐ → L

5 × 11 - 20 = ☐ → A

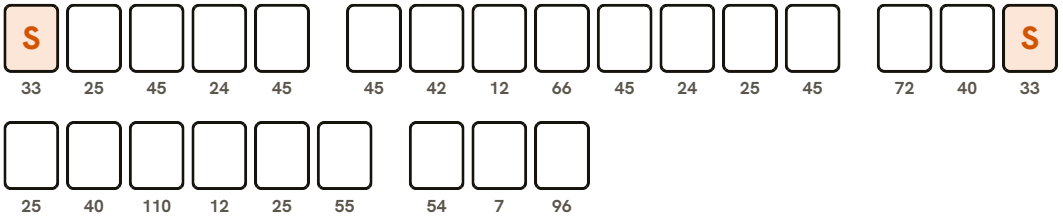
4 + 4 × 7 = ☐ → H

Scratch space:

CLUE 4 Multiplication facts (1-12)

Count the total light panels across the dance floor grid using multiplication.

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



11 × 3 = ☐ → S

8 × 5 = ☐ → A

12 × 8 = ☐ → R

8 × 3 = ☐ → N

9 × 5 = ☐ → E

6 × 9 = ☐ → F

6 × 12 = ☐ → H

7 × 6 = ☐ → V

1 × 7 = ☐ → U

6 × 11 = ☐ → D

10 × 11 = ☐ → L

5 × 5 = ☐ → C

11 × 5 = ☐ → O

12 × 1 = ☐ → I

Scratch space:

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

Divide the VIP glow necklaces evenly among the furry party guests.

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:

35 ÷ 7 = ☐	36 ÷ 4 = ☐	77 ÷ 7 = ☐	21 ÷ 3 = ☐	10 ÷ 1 = ☐
48 ÷ 8 = ☐	32 ÷ 8 = ☐	72 ÷ 6 = ☐	9 ÷ 9 = ☐	18 ÷ 6 = ☐
12 ÷ 6 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain released dense smoke fog, then flashed the strobe light.
2. The villain performed a vinyl scratch, then engaged the turntable lock.
3. The villain released dense smoke fog, then engaged the turntable lock.
4. The villain fired a synth blast, then engaged the turntable lock.
5. The villain triggered the laser flash, then flashed the strobe light.
6. The villain triggered the laser flash, then engaged the turntable lock.
7. The villain fired a synth blast, then turned on the fog machine.
8. The villain fired a synth blast, then flashed the strobe light.
9. The villain blasted the bass boost, then flashed the strobe light.
10. The villain blasted the bass boost, then launched the confetti cannon.
11. The villain blasted the bass boost, then engaged the turntable lock.
12. The villain triggered the laser flash, then turned on the fog machine.

TEACHER / PARENT

Answer Key

The Mystery of the Missing Golden Vinyl

Culprit: Jasper Jive

Synth Blast · Strobe Light · Left Paw Scratch · Calico Fur · Laser Pointer

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

Clue 1 (Percentages): "THE VILLAIN DOES NOT USE CONFETTI CANNON"

5% of 280 = 14 (T) · 10% of 370 = 37 (H) · 5% of 400 = 20 (E) · 5% of 260 = 13 (A) · 10% of 150 = 15 (F) · 75% of 8 = 6 (C) · 20% of 135 = 27 (S) · 20% of 170 = 34 (D) · 50% of 72 = 36 (V) · 10% of 180 = 18 (L) · 50% of 46 = 23 (U) · 25% of 96 = 24 (I) · 50% of 86 = 43 (O) · 5% of 240 = 12 (N)

Clue 2 (Exponents): "THE SUSPECT SCRATCHED DECK WITH LEFT PAW"

2^8 = 256 (T) · 2^7 = 128 (C) · 10^2 = 100 (W) · 3^5 = 243 (R) · 6^3 = 216 (D) · 2^2 = 4 (F) · 19^2 = 361 (K) · 2^4 = 16 (L) · 2^6 = 64 (P) · 6^2 = 36 (S) · 7^3 = 343 (I) · 3^4 = 81 (U) · 14^2 = 196 (H) · 15^2 = 225 (A) · 2^3 = 8 (E)

Clue 3 (Order of operations): "THE FOIL WAS FOILED BY LASER POINTER"

52 + 5 × 2 = 62 (T) · 10 + 3 × 4 = 22 (P) · 9 + 9 × 6 = 63 (I) · 11 + 3 × 3 = 20 (B) · 11 × 6 - 1 = 65 (Y) · 23 + 4 × 4 = 39 (F) · 5 × 8 - 25 = 15 (E) · 7 + 2 × 7 = 21 (W) · 12 × 4 - 11 = 37 (N) · 57 + 3 × 3 = 66 (D) · 15 + 5 × 9 = 60 (O) · 1 + 3 × 3 = 10 (S) · 8 × 8 - 20 = 44 (R) · 8 × 10 - 11 = 69 (L) · 5 × 11 - 20 = 35 (A) · 4 + 4 × 7 = 32 (H)

Clue 4 (Multiplication facts (1-12)): "SCENE EVIDENCE HAS CALICO FUR"

11 × 3 = 33 (S) · 8 × 5 = 40 (A) · 12 × 8 = 96 (R) · 8 × 3 = 24 (N) · 9 × 5 = 45 (E) · 6 × 9 = 54 (F) · 6 × 12 = 72 (H) · 7 × 6 = 42 (V) · 1 × 7 = 7 (U) · 6 × 11 = 66 (D) · 10 × 11 = 110 (L) · 5 × 5 = 25 (C) · 11 × 5 = 55 (O) · 12 × 1 = 12 (I)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Jasper Jive

35 ÷ 7 = 5 · 36 ÷ 4 = 9 · 77 ÷ 7 = 11 · 21 ÷ 3 = 7 · 10 ÷ 1 = 10 · 48 ÷ 8 = 6 · 32 ÷ 8 = 4 · 72 ÷ 6 = 12 · 9 ÷ 9 = 1 · 18 ÷ 6 = 3 · 12 ÷ 6 = 2