# The Case of the Missing Halloween Microphone

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

**Detective:** _____ **Date:** _____

The Golden Pumpkin Microphone vanished right before the big Halloween Bash! Solve the math clues around the stage to catch the thief and save the show!

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 Mic Thief is** _____

## Possible suspects

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

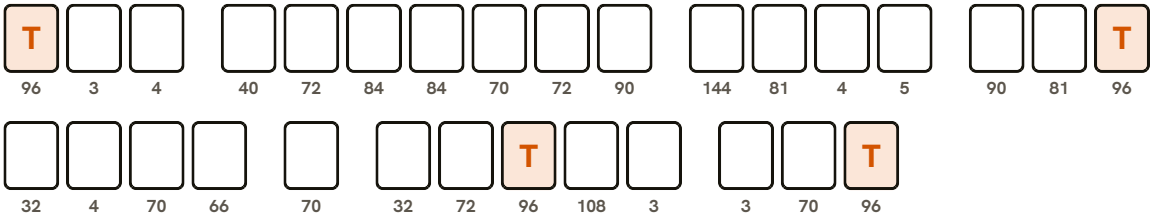
| NAME | STAGE GADGET | DISGUISE PROP | HOLDING HAND | COSTUME WIG | FEAR |
|---|---|---|---|---|---|
| **Gary Ghost** | Laser Pointer | Vampire Cape | LEFT HANDED | ORANGE PUMPKIN WIG | GARLIC BREAD |
| **Frankie Stein** | Fog Machine | Witch Hat | LEFT HANDED | PURPLE SPIDER WIG | SQUEAKY TOYS |
| **Toby Bat** | Fog Machine | Skeleton Gloves | RIGHT HANDED | PURPLE SPIDER WIG | GARLIC BREAD |
| **Paula Phantom** | Laser Pointer | Mummy Wraps | LEFT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Bones Malone** | Laser Pointer | Mummy Wraps | RIGHT HANDED | PURPLE SPIDER WIG | GARLIC BREAD |
| **Mummy Maya** | Spotlight | Ghost Sheet | LEFT HANDED | NEON GREEN WIG | SQUEAKY TOYS |
| **Victor Vamp** | Laser Pointer | Mummy Wraps | RIGHT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Wanda Witch** | Confetti Cannon | Mummy Wraps | LEFT HANDED | ORANGE PUMPKIN WIG | SQUEAKY TOYS |
| **Fiona Fog** | Echo Pedal | Ghost Sheet | RIGHT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Frankie Fly** | Laser Pointer | Ghost Sheet | LEFT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Iggy Igor** | Echo Pedal | Witch Hat | LEFT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **DJ Ghoul** | Echo Pedal | Vampire Cape | RIGHT HANDED | NEON GREEN WIG | BRIGHT LIGHTS |
| **Wendy Werewolf** | Echo Pedal | Witch Hat | LEFT HANDED | NEON GREEN WIG | BRIGHT LIGHTS |
| **Sam Screamer** | Fog Machine | Vampire Cape | LEFT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Tina Tomb** | Laser Pointer | Skeleton Gloves | LEFT HANDED | PURPLE SPIDER WIG | BRIGHT LIGHTS |
| **Bruno Brood** | Fog Machine | Witch Hat | RIGHT HANDED | NEON GREEN WIG | GARLIC BREAD |
| **Rick Reaper** | Echo Pedal | Skeleton Gloves | RIGHT HANDED | NEON GREEN WIG | SQUEAKY TOYS |
| **Jack O Lantern** | Fog Machine | Mummy Wraps | LEFT HANDED | NEON GREEN WIG | BRIGHT LIGHTS |
| **Zelda Zombie** | Laser Pointer | Vampire Cape | LEFT HANDED | ORANGE PUMPKIN WIG | SQUEAKY TOYS |
| **Count Vlad** | Laser Pointer | Skeleton Gloves | LEFT HANDED | ORANGE PUMPKIN WIG | BRIGHT LIGHTS |
| **Sally Spider** | Echo Pedal | Ghost Sheet | RIGHT HANDED | NEON GREEN WIG | GARLIC BREAD |

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## CLUE 1 Multiplication facts (1-12)

To check the backstage speaker crates, you count equal stacks of sound gear.

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




8 × 12 = ☐ → T

2 × 2 = ☐ → E

7 × 10 = ☐ → A

9 × 10 = ☐ → N

9 × 9 = ☐ → O

9 × 12 = ☐ → C

1 × 3 = ☐ → H

4 × 8 = ☐ → W

8 × 9 = ☐ → I

12 × 7 = ☐ → L

10 × 4 = ☐ → V

12 × 12 = ☐ → D

11 × 6 = ☐ → R

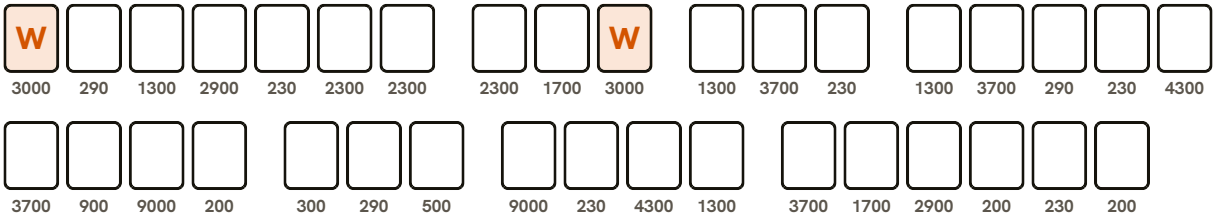
5 × 1 = ☐ → S

Scratch space:

## CLUE 2 Rounding

The soundboard digital meter rounds all decibel readings to the nearest hundred.

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




Round 2,878 to the nearest thousand ☐ → **W**

Round 9,493 to the nearest thousand ☐ → **L**

Round 1,332 to the nearest hundred ☐ → **T**

Round 2,272 to the nearest hundred ☐ → **S**

Round 861 to the nearest hundred ☐ → **O**

Round 290 to the nearest ten ☐ → **I**

Round 3,708 to the nearest hundred ☐ → **H**

Round 203 to the nearest hundred ☐ → **D**

Round 464 to the nearest hundred ☐ → **C**

Round 2,918 to the nearest hundred ☐ → **N**

Round 4,285 to the nearest hundred ☐ → **F**

Round 1,709 to the nearest hundred ☐ → **A**

Round 231 to the nearest ten ☐ → **E**

Round 282 to the nearest hundred ☐ → **M**

Scratch space:

## CLUE 3 Addition

You add up the total missing cables found near the microphone stand.

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




| | | |
|---|---|---|
| 3104 + 4763 = ☐ → T | 1757 + 2694 = ☐ → I | 6779 + 3019 = ☐ → D |
| 1973 + 3651 = ☐ → B | 2303 + 1025 = ☐ → R | 1250 + 2332 = ☐ → H |
| 4474 + 5059 = ☐ → M | 2459 + 4273 = ☐ → W | 2016 + 3256 = ☐ → C |
| 3997 + 3412 = ☐ → E | 4332 + 1889 = ☐ → S | 1558 + 2902 = ☐ → F |
| 3662 + 5395 = ☐ → G | 5085 + 4478 = ☐ → A | 3298 + 4030 = ☐ → N |
| 2268 + 2662 = ☐ → L | 2883 + 3802 = ☐ → O | |

Scratch space:

## CLUE 4 Subtraction

You compare the full stash of batteries against what remains in the box.

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




3426 - 231 = ☐ → **O**

2849 - 281 = ☐ → **D**

12119 - 3311 = ☐ → **E**

5812 - 3731 = ☐ → **I**

10325 - 4966 = ☐ → **Y**

8701 - 5 = ☐ → **S**

5578 - 4530 = ☐ → **W**

12033 - 3420 = ☐ → **A**

4559 - 3336 = ☐ → **R**

11599 - 3300 = ☐ → **H**

8087 - 705 = ☐ → **N**

3504 - 1606 = ☐ → **G**

4397 - 1985 = ☐ → **T**

10154 - 2937 = ☐ → **M**

7986 - 4617 = ☐ → **C**

Scratch space:

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

> You divide the glowing glowsticks equally among the stage crew helpers.

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:**

| | | | | |
|---|---|---|---|---|
| 6 ÷ 3 = ☐ | 84 ÷ 7 = ☐ | 18 ÷ 2 = ☐ | 24 ÷ 8 = ☐ | 20 ÷ 4 = ☐ |
| 40 ÷ 5 = ☐ | 28 ÷ 7 = ☐ | 7 ÷ 1 = ☐ | 12 ÷ 12 = ☐ | 50 ÷ 5 = ☐ |
| 33 ÷ 3 = ☐ | | | | |

**Step 2 - cross out the sentence with each answer:**

1. The villain aimed a bright spotlight at the ceiling, then swished a vampire cape.
2. The villain blasted fog across the stage, then swished a vampire cape.
3. The villain flashed laser lights into the crowd, then swished a vampire cape.
4. The villain turned on the heavy echo pedal, then tangled up in mummy wraps.
5. The villain turned on the heavy echo pedal, then tipped a witch hat.
6. The villain flashed laser lights into the crowd, then waved skeleton gloves.
7. The villain aimed a bright spotlight at the ceiling, then tipped a witch hat.
8. The villain turned on the heavy echo pedal, then waved skeleton gloves.
9. The villain flashed laser lights into the crowd, then floated away in a ghost sheet.
10. The villain fired the loud confetti cannon, then floated away in a ghost sheet.
11. The villain fired the loud confetti cannon, then swished a vampire cape.
12. The villain flashed laser lights into the crowd, then tangled up in mummy wraps.

TEACHER / PARENT

# Answer Key

The Case of the Missing Halloween Microphone

## Culprit: Count Vlad

Laser Pointer · Skeleton Gloves · LEFT HANDED · ORANGE PUMPKIN WIG · BRIGHT LIGHTS

Trail: Start 21 → Clue 1 17 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

### Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT WEAR A WITCH HAT"

8 × 12 = 96 (T) · 2 × 2 = 4 (E) · 7 × 10 = 70 (A) · 9 × 10 = 90 (N) · 9 × 9 = 81 (O) · 9 × 12 = 108 (C) · 1 × 3 = 3 (H) · 4 × 8 = 32 (W) · 8 × 9 = 72 (I) · 12 × 7 = 84 (L) · 10 × 4 = 40 (V) · 12 × 12 = 144 (D) · 11 × 6 = 66 (R) · 5 × 1 = 5 (S)

### Clue 2 (Rounding): "WITNESS SAW THE THIEF HOLD MIC LEFT HANDED"

Round 2,878 to the nearest thousand = 3000 (W) · Round 9,493 to the nearest thousand = 9000 (L) · Round 1,332 to the nearest hundred = 1300 (T) · Round 2,272 to the nearest hundred = 2300 (S) · Round 861 to the nearest hundred = 900 (O) · Round 290 to the nearest ten = 290 (I) · Round 3,708 to the nearest hundred = 3700 (H) · Round 203 to the nearest hundred = 200 (D) · Round 464 to the nearest hundred = 500 (C) · Round 2,918 to the nearest hundred = 2900 (N) · Round 4,285 to the nearest hundred = 4300 (F) · Round 1,709 to the nearest hundred = 1700 (A) · Round 231 to the nearest ten = 230 (E) · Round 282 to the nearest hundred = 300 (M)

### Clue 3 (Addition): "THE SINGER SCARED THEM OFF WITH BRIGHT LIGHTS"

3104 + 4763 = 7867 (T) · 1757 + 2694 = 4451 (I) · 6779 + 3019 = 9798 (D) · 1973 + 3651 = 5624 (B) · 2303 + 1025 = 3328 (R) · 1250 + 2332 = 3582 (H) · 4474 + 5059 = 9533 (M) · 2459 + 4273 = 6732 (W) · 2016 + 3256 = 5272 (C) · 3997 + 3412 = 7409 (E) · 4332 + 1889 = 6221 (S) · 1558 + 2902 = 4460 (F) · 3662 + 5395 = 9057 (G) · 5085 + 4478 = 9563 (A) · 3298 + 4030 = 7328 (N) · 2268 + 2662 = 4930 (L) · 2883 + 3802 = 6685 (O)

### Clue 4 (Subtraction): "ORANGE SYNTHETIC HAIR WAS STRANDED ON MIC"

3426 - 231 = 3195 (O) · 2849 - 281 = 2568 (D) · 12119 - 3311 = 8808 (E) · 5812 - 3731 = 2081 (I) · 10325 - 4966 = 5359 (Y) · 8701 - 5 = 8696 (S) · 5578 - 4530 = 1048 (W) · 12033 - 3420 = 8613 (A) · 4559 - 3336 = 1223 (R) · 11599 - 3300 = 8299 (H) · 8087 - 705 = 7382 (N) · 3504 - 1606 = 1898 (G) · 4397 - 1985 = 2412 (T) · 10154 - 2937 = 7217 (M) · 7986 - 4617 = 3369 (C)

### Clue 5 (Division facts (1-12)): surviving statement is box 6 → Count Vlad

6 ÷ 3 = 2 · 84 ÷ 7 = 12 · 18 ÷ 2 = 9 · 24 ÷ 8 = 3 · 20 ÷ 4 = 5 · 40 ÷ 5 = 8 · 28 ÷ 7 = 4 · 7 ÷ 1 = 7 · 12 ÷ 12 = 1 · 50 ÷ 5 = 10 · 33 ÷ 3 = 11