



The Pop Star Microphone Mystery

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

Detective: _____ Date: _____

Someone has swiped the golden microphone right before the big show! The Tour Manager is in a panic. We need to look backstage at the Neon Arena and find the backup singer or dancer who did it before the curtains rise!

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 the Backstage Bandit is _____

Possible suspects

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

| NAME | MAIN INSTRUMENT | DANCE STYLE | MIC GRIP | HAIR COLOR | STAGE FRIGHT TRIGGER |
|---------------|--------------------|-------------|--------------|--------------|----------------------|
| Hazel Harmony | pink guitar | moonwalk | right handed | neon pink | squeaky mic |
| Otis Octave | neon drums | hip hop | left handed | sparkle gold | bright spotlight |
| Brody Bass | laser synth | hip hop | left handed | neon pink | bright spotlight |
| Leo Lyric | laser synth | ballet spin | left handed | sparkle gold | bright spotlight |
| Chloe Chorus | keytar | breakdance | right handed | glitter blue | bright spotlight |
| Piper Pop | pink guitar | ballet spin | right handed | neon pink | squeaky mic |
| Maya Mixer | glitter tambourine | breakdance | left handed | neon pink | bright spotlight |
| Skye Synth | glitter tambourine | hip hop | left handed | glitter blue | bright spotlight |
| Toby Tune | keytar | hip hop | right handed | neon pink | bright spotlight |
| Stella Solo | laser synth | ballet spin | right handed | glitter blue | bright spotlight |
| Tyler Tempo | neon drums | robot dance | left handed | neon pink | loud static |
| Max Melody | keytar | moonwalk | left handed | glitter blue | bright spotlight |
| Chase Chord | pink guitar | robot dance | left handed | neon pink | squeaky mic |
| Danny Duet | glitter tambourine | breakdance | left handed | sparkle gold | squeaky mic |
| Zack Zigzag | keytar | breakdance | left handed | sparkle gold | bright spotlight |
| Ryder Rhythm | keytar | moonwalk | right handed | neon pink | bright spotlight |
| Kira Key | keytar | breakdance | left handed | neon pink | loud static |
| Roxy Ripple | neon drums | ballet spin | left handed | neon pink | bright spotlight |
| Daisy Drum | neon drums | moonwalk | right handed | neon pink | loud static |
| Bella Beat | pink guitar | hip hop | left handed | neon pink | bright spotlight |
| Jax Jangle | laser synth | moonwalk | left handed | neon pink | bright spotlight |

CLUE 1 Rounding

The backstage radar screen shows the distance to the next tour bus stop. The screen only displays numbers rounded to the nearest ten.

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

| | | | | | | | | | | | | | | | |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------------|------|
| <input type="text" value="T"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="T"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="T"/> | |
| 3100 | 70000 | 310 | 470 | 140 | 2000 | 20 | 70 | 3100 | 20 | 280000 | 310 | 14000 | 2000 | 280000 | 3100 |

| | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 30000 | 280000 | 280000 | 2000 | 20000 | 140 | 700 | 310000 |

| | | |
|---|--|--|
| Round 3,122 to the nearest hundred <input type="text" value="B"/> | Round 307,460 to the nearest ten thousand <input type="text" value="K"/> | Round 278,925 to the nearest ten thousand <input type="text" value="O"/> |
| Round 24,925 to the nearest ten thousand <input type="text" value="W"/> | Round 21 to the nearest ten <input type="text" value="D"/> | Round 309 to the nearest ten <input type="text" value="E"/> |
| Round 68,261 to the nearest ten thousand <input type="text" value="H"/> | Round 32,959 to the nearest ten thousand <input type="text" value="M"/> | Round 71 to the nearest ten <input type="text" value="I"/> |
| Round 747 to the nearest hundred <input type="text" value="L"/> | Round 13,889 to the nearest thousand <input type="text" value="S"/> | Round 2,292 to the nearest thousand <input type="text" value="N"/> |
| Round 142 to the nearest ten <input type="text" value="A"/> | Round 466 to the nearest ten <input type="text" value="B"/> | |

Scratch space:

CLUE 2

Addition

The stage crew is counting the extra microphone stands. They need to add up the piles in the left wing and the right wing.

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

| | | | | | | | | | | | | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| T | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | T | <input type="text"/> | <input type="text"/> | | | | |
| 7596 | 4504 | 3427 | 3347 | 9811 | 3347 | 5071 | 3427 | 2644 | 7596 | 4504 | 3427 | 2159 | 7122 | 7596 | 4504 | 3427 | | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | T | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | T | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 2222 | 5379 | 2644 | 5379 | 3158 | 7596 | 4504 | 3427 | 5379 | 5474 | 2159 | 3427 | 2861 | 7596 | 4504 | 2773 | 3158 | 7122 | |

| | | | | | |
|-------------------------|----------|-------------------------|----------|-------------------------|----------|
| $5241 + 2355 = \square$ | T | $1255 + 2092 = \square$ | S | $2952 + 6859 = \square$ | U |
| $910 + 1863 = \square$ | A | $1144 + 2014 = \square$ | N | $1575 + 1069 = \square$ | C |
| $1490 + 669 = \square$ | L | $3166 + 2213 = \square$ | I | $1273 + 1588 = \square$ | F |
| $1206 + 1016 = \square$ | M | $4580 + 2542 = \square$ | D | $1116 + 2311 = \square$ | E |
| $1749 + 2755 = \square$ | H | $1914 + 3157 = \square$ | P | $3579 + 1895 = \square$ | R |

Scratch space:

CLUE 3 Subtraction

We check the box of shiny VIP passes. Some passes are missing, so we must subtract the remaining ones from the start total.

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

| | | | | | | | | | | | | | | | | | | |
|----------|------|------|------|----------|------|------|------|------|----------|------|------|------|------|------|----------|------|------|----------|
| T | | | | | | | | | | | | | | | | | | |
| 2667 | 6327 | 3554 | 8940 | 2617 | 7501 | 7501 | 5532 | 2617 | 6776 | 5084 | 7501 | 2617 | 6776 | 5220 | 3554 | 3381 | | |
| | | | | T | | | | | T | | | | | | T | | | T |
| 4513 | 6327 | 3554 | 6776 | 2667 | 6327 | 3554 | 2118 | 7608 | 4201 | 2667 | 7501 | 2617 | 5804 | 6327 | 2667 | 6327 | 2617 | 2667 |

| | | | | | |
|--------------------------|----------|--------------------------|----------|--------------------------|----------|
| $7397 - 4730 = \square$ | T | $11619 - 2679 = \square$ | V | $4561 - 2443 = \square$ | S |
| $9087 - 2760 = \square$ | H | $5924 - 2370 = \square$ | E | $11818 - 4210 = \square$ | P |
| $8100 - 3587 = \square$ | W | $9740 - 4208 = \square$ | A | $7538 - 3337 = \square$ | O |
| $7148 - 1344 = \square$ | G | $7689 - 4308 = \square$ | D | $3237 - 620 = \square$ | I |
| $11306 - 4530 = \square$ | N | $6622 - 1538 = \square$ | B | $11299 - 3798 = \square$ | L |
| $9069 - 3849 = \square$ | K | | | | |

Scratch space:

CLUE 4

Multiplication facts (1-12)

The backup dancers stand in equal rows for their warm-up. We multiply the rows by the dancers in each row to count them.

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

| | | | | | | | | | | | | | | | |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| W | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 77 | 81 | 32 | 10 | 54 | 80 | 110 | 3 | 80 | 81 | 10 | 80 | 7 | 15 | 80 | 27 |

| | | | | | | | | | | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| 20 | 3 | 15 | 45 | 55 | 50 | 45 | 3 | 80 | 110 | 10 | 80 | 55 | 50 | 3 | 44 | 81 |

| | | | | | |
|--------------------------------------|----------|---------------------------------------|----------|--------------------------------------|----------|
| $11 \times 7 =$ <input type="text"/> | W | $2 \times 10 =$ <input type="text"/> | H | $11 \times 5 =$ <input type="text"/> | S |
| $7 \times 1 =$ <input type="text"/> | P | $5 \times 10 =$ <input type="text"/> | T | $9 \times 9 =$ <input type="text"/> | E |
| $4 \times 8 =$ <input type="text"/> | F | $11 \times 10 =$ <input type="text"/> | D | $5 \times 2 =$ <input type="text"/> | O |
| $10 \times 8 =$ <input type="text"/> | N | $1 \times 3 =$ <input type="text"/> | A | $9 \times 3 =$ <input type="text"/> | K |
| $5 \times 3 =$ <input type="text"/> | I | $9 \times 5 =$ <input type="text"/> | R | $6 \times 9 =$ <input type="text"/> | U |
| $11 \times 4 =$ <input type="text"/> | G | | | | |

Scratch space:

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

We have a big jar of sparkly guitar picks to share. We must divide them equally among the security guards at the doors.

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:

$6 \div 2 = \square$

$16 \div 2 = \square$

$18 \div 2 = \square$

$36 \div 9 = \square$

$50 \div 10 = \square$

$5 \div 5 = \square$

$55 \div 5 = \square$

$12 \div 6 = \square$

$42 \div 6 = \square$

$30 \div 3 = \square$

$48 \div 8 = \square$

Step 2 - cross out the sentence with each answer:

1. The villain strums the pink guitar, then drops into a wild breakdance.
2. The villain taps the laser synth, then does a fast ballet spin.
3. The villain shakes the glitter tambourine, then drops into a wild breakdance.
4. The villain bangs the neon drums, then busts out a hip hop move.
5. The villain taps the laser synth, then glides in a slick moonwalk.
6. The villain strums the pink guitar, then shows off a robot dance.
7. The villain bangs the neon drums, then glides in a slick moonwalk.
8. The villain bangs the neon drums, then does a fast ballet spin.
9. The villain taps the laser synth, then busts out a hip hop move.
10. The villain jams on the keytar, then does a fast ballet spin.
11. The villain taps the laser synth, then drops into a wild breakdance.
12. The villain strums the pink guitar, then busts out a hip hop move.

Answer Key

The Pop Star Microphone Mystery

Culprit: Bella Beat

pink guitar · hip hop · left handed · neon pink · bright spotlight

Trail: Start 21 → Clue 1 16 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE BANDIT DOES NOT MOONWALK"

Round 3,122 to the nearest hundred = 3100 (T) · Round 307,460 to the nearest ten thousand = 310000 (K) · Round 278,925 to the nearest ten thousand = 280000 (O) · Round 24,925 to the nearest ten thousand = 20000 (W) · Round 21 to the nearest ten = 20 (D) · Round 309 to the nearest ten = 310 (E) · Round 68,261 to the nearest ten thousand = 70000 (H) · Round 32,959 to the nearest ten thousand = 30000 (M) · Round 71 to the nearest ten = 70 (I) · Round 747 to the nearest hundred = 700 (L) · Round 13,889 to the nearest thousand = 14000 (S) · Round 2,292 to the nearest thousand = 2000 (N) · Round 142 to the nearest ten = 140 (A) · Round 466 to the nearest ten = 470 (B)

Clue 2 (Addition): "THE SUSPECT HELD THE MIC IN THEIR LEFT HAND"

$5241 + 2355 = 7596$ (T) · $1255 + 2092 = 3347$ (S) · $2952 + 6859 = 9811$ (U) · $910 + 1863 = 2773$ (A) · $1144 + 2014 = 3158$ (N) · $1575 + 1069 = 2644$ (C) · $1490 + 669 = 2159$ (L) · $3166 + 2213 = 5379$ (I) · $1273 + 1588 = 2861$ (F) · $1206 + 1016 = 2222$ (M) · $4580 + 2542 = 7122$ (D) · $1116 + 2311 = 3427$ (E) · $1749 + 2755 = 4504$ (H) · $1914 + 3157 = 5071$ (P) · $3579 + 1895 = 5474$ (R)

Clue 3 (Subtraction): "THE VILLAIN BLINKED WHEN THE SPOTLIGHT HIT"

$7397 - 4730 = 2667$ (T) · $11619 - 2679 = 8940$ (V) · $4561 - 2443 = 2118$ (S) · $9087 - 2760 = 6327$ (H) · $5924 - 2370 = 3554$ (E) · $11818 - 4210 = 7608$ (P) · $8100 - 3587 = 4513$ (W) · $9740 - 4208 = 5532$ (A) · $7538 - 3337 = 4201$ (O) · $7148 - 1344 = 5804$ (G) · $7689 - 4308 = 3381$ (D) · $3237 - 620 = 2617$ (I) · $11306 - 4530 = 6776$ (N) · $6622 - 1538 = 5084$ (B) · $11299 - 3798 = 7501$ (L) · $9069 - 3849 = 5220$ (K)

Clue 4 (Multiplication facts (1-12)): "WE FOUND A NEON PINK HAIR STRAND ON STAGE"

$11 \times 7 = 77$ (W) · $2 \times 10 = 20$ (H) · $11 \times 5 = 55$ (S) · $7 \times 1 = 7$ (P) · $5 \times 10 = 50$ (T) · $9 \times 9 = 81$ (E) · $4 \times 8 = 32$ (F) · $11 \times 10 = 110$ (D) · $5 \times 2 = 10$ (O) · $10 \times 8 = 80$ (N) · $1 \times 3 = 3$ (A) · $9 \times 3 = 27$ (K) · $5 \times 3 = 15$ (I) · $9 \times 5 = 45$ (R) · $6 \times 9 = 54$ (U) · $11 \times 4 = 44$ (G)

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

$6 \div 2 = 3$ · $16 \div 2 = 8$ · $18 \div 2 = 9$ · $36 \div 9 = 4$ · $50 \div 10 = 5$ · $5 \div 5 = 1$ · $55 \div 5 = 11$ · $12 \div 6 = 2$ · $42 \div 6 = 7$ · $30 \div 3 = 10$ · $48 \div 8 = 6$