



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.

T									T										T
3100	70000	310	470	140	2000	20	70	3100	20	280000	310	14000	2000	280000	3100				
30000	280000	280000	2000	20000	140	700	310000												

Round 3,122 to the nearest hundred → **T**

Round 307,460 to the nearest ten thousand → **K**

Round 278,925 to the nearest ten thousand → **O**

Round 24,925 to the nearest ten thousand → **W**

Round 21 to the nearest ten → **D**

Round 309 to the nearest ten → **E**

Round 68,261 to the nearest ten thousand → **H**

Round 32,959 to the nearest ten thousand → **M**

Round 71 to the nearest ten → **I**

Round 747 to the nearest hundred → **L**

Round 13,889 to the nearest thousand → **S**

Round 2,292 to the nearest thousand → **N**

Round 142 to the nearest ten → **A**

Round 466 to the nearest ten → **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								T					T				
7596	4504	3427	3347	9811	3347	5071	3427	2644	7596	4504	3427	2159	7122	7596	4504	3427	
					T							T					
2222	5379	2644	5379	3158	7596	4504	3427	5379	5474	2159	3427	2861	7596	4504	2773	3158	7122

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

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

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

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																
77	81	32	10	54	80	110	3	80	81	10	80	7	15	80	27	
20	3	15	45	55	50	45	3	80	110	10	80	55	50	3	44	81

$11 \times 7 = \square \rightarrow$ W	$2 \times 10 = \square \rightarrow$ H	$11 \times 5 = \square \rightarrow$ S	
$7 \times 1 = \square \rightarrow$ P	$5 \times 10 = \square \rightarrow$ T	$9 \times 9 = \square \rightarrow$ E	$4 \times 8 = \square \rightarrow$ F
$11 \times 10 = \square \rightarrow$ D	$5 \times 2 = \square \rightarrow$ O	$10 \times 8 = \square \rightarrow$ N	
$1 \times 3 = \square \rightarrow$ A	$9 \times 3 = \square \rightarrow$ K	$5 \times 3 = \square \rightarrow$ I	$9 \times 5 = \square \rightarrow$ R
$6 \times 9 = \square \rightarrow$ U	$11 \times 4 = \square \rightarrow$ 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:

$6 \div 2 = \boxed{}$

$16 \div 2 = \boxed{}$

$18 \div 2 = \boxed{}$

$36 \div 9 = \boxed{}$

$50 \div 10 = \boxed{}$

$5 \div 5 = \boxed{}$

$55 \div 5 = \boxed{}$

$12 \div 6 = \boxed{}$

$42 \div 6 = \boxed{}$

$30 \div 3 = \boxed{}$

$48 \div 8 = \boxed{}$

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

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