



The Silent Note of the Melody Archives

Grade 5 math · Fractions of a number, Multi-step word problems, Order of operations, Multiplication, Missing addends --
Reading level grades 5-6

Detective: _____ Date: _____

The master tracks of the world's greatest songs are in danger! Someone has locked the Chief Sound Engineer inside a giant soundproof speaker box and is trying to erase history's biggest hits. We must analyze the audio logs and trace the clues to catch the Silent Note before the music goes quiet forever.

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 Silent Note is _____

Possible suspects

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

NAME	VOCAL STYLE	SIGNATURE INSTRUMENT	WRISTBAND PLACEMENT	STAGE HAIRCUT	SONIC DEFENSE
McCartney	Electric Falsetto	Keytar Synthesizer	Wears Left Wristband	Neon Blue Pompadour	Static Feedback Noise
Ariana	Electric Falsetto	Double Neck Guitar	Wears Right Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Elton	Golden Oldies Croon	Laser Tambourine	Wears Left Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Sinatra	Operatic Soprano	Golden Microphone	Wears Right Wristband	Neon Blue Pompadour	Static Feedback Noise
Taylor	High Speed Rap	Laser Tambourine	Wears Right Wristband	Neon Blue Pompadour	Giant Megaphone Echo
Elvis	High Speed Rap	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Bowie	Golden Oldies Croon	Diamond Drumsticks	Wears Left Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Dylan	Operatic Soprano	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Static Feedback Noise
Bruno	Operatic Soprano	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Cher	Operatic Soprano	Keytar Synthesizer	Wears Right Wristband	Spiky Platinum Mohawks	Static Feedback Noise
Dolly	High Speed Rap	Keytar Synthesizer	Wears Left Wristband	Silver Glitter Dreadlocks	Out Of Tune Guitars
Joplin	Cosmic Synth Pop	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Out Of Tune Guitars
Lennon	Cosmic Synth Pop	Keytar Synthesizer	Wears Right Wristband	Silver Glitter Dreadlocks	Out Of Tune Guitars
Adele	Electric Falsetto	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Giant Megaphone Echo
Cobain	Electric Falsetto	Laser Tambourine	Wears Left Wristband	Spiky Platinum Mohawks	Static Feedback Noise
Freddie	Operatic Soprano	Keytar Synthesizer	Wears Left Wristband	Neon Blue Pompadour	Static Feedback Noise
Prince	High Speed Rap	Laser Tambourine	Wears Right Wristband	Silver Glitter Dreadlocks	Giant Megaphone Echo
Hendrix	Golden Oldies Croon	Laser Tambourine	Wears Left Wristband	Silver Glitter Dreadlocks	Giant Megaphone Echo
Sheeran	High Speed Rap	Double Neck Guitar	Wears Left Wristband	Spiky Platinum Mohawks	Static Feedback Noise
Stevie	Golden Oldies Croon	Golden Microphone	Wears Left Wristband	Spiky Platinum Mohawks	Out Of Tune Guitars
Billie	Electric Falsetto	Golden Microphone	Wears Left Wristband	Neon Blue Pompadour	Out Of Tune Guitars

Fractions of a number

The studio ticket office needs to track the total VIP passes sold over several concert tours to unlock the archive doors.

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

Three rows of number boxes for a multiplication exercise. The boxes are arranged in three rows. The first row has 16 boxes, the second row has 14 boxes, and the third row has 10 boxes. The boxes containing the number 9 are highlighted in orange.

9	37	38	11	30	6	38	15	9	15	5	9	38	23	5	38	11
15	5	9	37	4	22	38	23	30	4	20	5	15	23			
23	18	21	20	11	9	30	39	35	11							

$1/4$ of 36 = $\rightarrow$ **T**

$\frac{1}{10}$ of 40 = $\rightarrow$ **A**

$$5/8 \text{ of } 8 = \boxed{} \rightarrow \boxed{0}$$

4/8 of 42 = → **U**

5/10 of 22 = $\rightarrow$ **S**

$$2/6 \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{M}}$$

$2/3$ of 57 = $\rightarrow$ **E**

$\frac{3}{4}$ of 20 = $\rightarrow$ **N**

2/8 of 148 = → **H**

$$2/10 \text{ of } 90 = \boxed{} \rightarrow \boxed{\text{R}}$$

5/10 of 78 = → **C**

4/10 of 55 = → **V**

7/10 of 50 = → **K**

$$5/10 \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{I}}$$

4/10 of 15 = → **L**

$1/8$ of 184 = $\rightarrow$ **D**

Scratch space:

CLUE 2

Multi-step word problems

Only a fraction of the vintage records survived the power surge. Calculate the exact number of saved hits to boot up the backup deck.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

W								T	W		I		T	B		N	D	.
45	17	33	37	29	57	17	70		45	37		29			33			

Studio technician earned 4 guitar picks in each of 5 rounds, plus 27 bonus guitar picks. Then 2 guitar picks were lost. How many guitar picks are left?

Answer: → **W**

There were 201 record players in all. 3 the sound crew used 33 record players each. The other 6 the sound crew shared the rest equally. How many record players did each of the other the sound crew get?

Answer: → **E**

There were 161 guitar picks in all. 2 the sound crew used 8 guitar picks each. The other 5 the sound crew shared the rest equally. How many guitar picks did each of the other the sound crew get?

Answer: → **S**

Studio technician filled 5 boxes with 6 record players each, then found 7 more record players. How many record players are there in all?

Answer: → **R**

Studio technician earned 7 microphones in each of 6 rounds, plus 35 bonus microphones. Then 7 microphones were lost. How many microphones are left?

Answer: → **F**

There were 228 cassette tapes in all. 2 the sound crew used 15 cassette tapes each. The other 6 the sound crew shared the rest equally. How many cassette tapes did each of the other the sound crew get?

Answer: → **A**

There were 549 microphones in all. 36 microphones were set aside. The rest were shared equally among 9 the sound crew. How many microphones did each get?

Answer: → **L**

Scratch space:

CLUE 3
Order of operations

The frequency analyzer must be calibrated using the strict rules of operations so we can filter out the villain's static hum.

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

T																
56	13	7	12	9	39	39	36	9	59	50	36	59	37	50	66	74
				T												
68	9	36	59	56	74	7	68	36	34	13	66	59	7	7	78	13

$12 \times 7 - 28 = \square \rightarrow \text{**T**}$

$3 + 2 \times 2 = \square \rightarrow \text{**E**}$

$59 + 3 \times 3 = \square \rightarrow \text{**G**}$

$9 \times 10 - 16 = \square \rightarrow \text{**M**}$

$7 + 2 \times 3 = \square \rightarrow \text{**H**}$

$14 + 6 \times 6 = \square \rightarrow \text{**R**}$

$7 + 6 \times 5 = \square \rightarrow \text{**F**}$

$5 \times 9 - 11 = \square \rightarrow \text{**P**}$

$10 \times 9 - 24 = \square \rightarrow \text{**O**}$

$11 \times 8 - 10 = \square \rightarrow \text{**C**}$

$35 + 6 \times 4 = \square \rightarrow \text{**N**}$

$9 \times 5 - 9 = \square \rightarrow \text{**A**}$

$4 \times 9 - 27 = \square \rightarrow \text{**I**}$

$4 \times 10 - 1 = \square \rightarrow \text{**L**}$

$3 \times 6 - 6 = \square \rightarrow \text{**V**}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

The massive speaker walls are stacked in neat rows. Multiply the columns to find the total acoustic force needed to crack the security code.

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

W																			
20	50	15	64	144	63	80	24	110	48	42	121	63	144	72	25	48	121	35	
48	42	42	25	50	72	121	60	121	63	4	80	50	56	6					

$5 \times 4 = \square \rightarrow \text{W}$

$11 \times 11 = \square \rightarrow \text{I}$

$7 \times 9 = \square \rightarrow \text{N}$

$6 \times 8 = \square \rightarrow \text{A}$

$9 \times 8 = \square \rightarrow \text{M}$

$3 \times 2 = \square \rightarrow \text{K}$

$8 \times 8 = \square \rightarrow \text{O}$

$5 \times 10 = \square \rightarrow \text{E}$

$5 \times 5 = \square \rightarrow \text{H}$

$2 \times 12 = \square \rightarrow \text{P}$

$2 \times 2 = \square \rightarrow \text{G}$

$10 \times 8 = \square \rightarrow \text{D}$

$7 \times 8 = \square \rightarrow \text{S}$

$6 \times 7 = \square \rightarrow \text{T}$

$5 \times 3 = \square \rightarrow \text{F}$

$7 \times 5 = \square \rightarrow \text{R}$

$12 \times 12 = \square \rightarrow \text{U}$

$11 \times 10 = \square \rightarrow \text{L}$

$10 \times 6 = \square \rightarrow \text{X}$

Scratch space:

CLUE 5**Missing addends - the last clue**

We have collected a box of classic master tapes, but we need to find how many more are missing to reach the target vault capacity.

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:

$15 + \underline{\quad} = 24$

$9 + \underline{\quad} = 19$

$35 + \underline{\quad} = 41$

$19 + \underline{\quad} = 20$

$11 + \underline{\quad} = 22$

$18 + \underline{\quad} = 20$

$35 + \underline{\quad} = 40$

$18 + \underline{\quad} = 22$

$40 + \underline{\quad} = 47$

$16 + \underline{\quad} = 19$

$21 + \underline{\quad} = 29$

Step 2 - cross out the sentence with each answer:

1. The villain strums a dizzying guitar solo, then steals the classic vinyl records.
2. The villain unleashes a rapid fire lyric sequence, then scrambles the master synthesizer settings.
3. The villain plays a hypnotic synthesizer chord, then snatches the golden vocal tracks.
4. The villain unleashes a rapid fire lyric sequence, then steals the classic vinyl records.
5. The villain plays a hypnotic synthesizer chord, then steals the classic vinyl records.
6. The villain unleashes a rapid fire lyric sequence, then snatches the golden vocal tracks.
7. The villain blasts a supercharged bass drop, then wipes the digital recording files.
8. The villain plays a hypnotic synthesizer chord, then swaps the sheet music with blanks.
9. The villain sings a glass shattering high note, then snatches the golden vocal tracks.
10. The villain strums a dizzying guitar solo, then swaps the sheet music with blanks.
11. The villain sings a glass shattering high note, then swaps the sheet music with blanks.
12. The villain blasts a supercharged bass drop, then snatches the golden vocal tracks.

Answer Key

The Silent Note of the Melody Archives

Culprit: Adele

Electric Falsetto · Golden Microphone · Wears Left Wristband · Spiky Platinum Mohawks · Giant Megaphone Echo

Trail: Start 21 → Clue 1 20 → Clue 2 14 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE SILENT NOTE DOES NOT HAVE DIAMOND DRUMSTICKS"

$\frac{1}{4}$ of 36 = 9 (T) · $\frac{1}{10}$ of 40 = 4 (A) · $\frac{5}{8}$ of 8 = 5 (O) · $\frac{4}{8}$ of 42 = 21 (U) · $\frac{5}{10}$ of 22 = 11 (S) · $\frac{2}{6}$ of 60 = 20 (M) · $\frac{2}{3}$ of 57 = 38 (E) · $\frac{3}{4}$ of 20 = 15 (N) · $\frac{2}{8}$ of 148 = 37 (H) · $\frac{2}{10}$ of 90 = 18 (R) · $\frac{5}{10}$ of 78 = 39 (C) · $\frac{4}{10}$ of 55 = 22 (V) · $\frac{7}{10}$ of 50 = 35 (K) · $\frac{5}{10}$ of 60 = 30 (I) · $\frac{4}{10}$ of 15 = 6 (L) · $\frac{1}{8}$ of 184 = 23 (D)

Clue 2 (Multi-step word problems): "WEARS LEFT WRISTBAND"

Studio technician earned 4 guitar picks in each of 5 rounds, plus 27 bonus guitar picks. Then 2 guitar picks were lost. How many guitar picks are left? = 45 (W) · There were 201 record players in all. 3 the sound crew used 33 record players each. The other 6 the sound crew shared the rest equally. How many record players did each of the other the sound crew get? = 17 (E) · There were 161 guitar picks in all. 2 the sound crew used 8 guitar picks each. The other 5 the sound crew shared the rest equally. How many guitar picks did each of the other the sound crew get? = 29 (S) · Studio technician filled 5 boxes with 6 record players each, then found 7 more record players. How many record players are there in all? = 37 (R) · Studio technician earned 7 microphones in each of 6 rounds, plus 35 bonus microphones. Then 7 microphones were lost. How many microphones are left? = 70 (F) · There were 228 cassette tapes in all. 2 the sound crew used 15 cassette tapes each. The other 6 the sound crew shared the rest equally. How many cassette tapes did each of the other the sound crew get? = 33 (A) · There were 549 microphones in all. 36 microphones were set aside. The rest were shared equally among 9 the sound crew. How many microphones did each get? = 57 (L)

Clue 3 (Order of operations): "THE VILLAIN RAN FROM GIANT MEGAPHONE ECHO"

$12 \times 7 - 28 = 56$ (T) · $3 + 2 \times 2 = 7$ (E) · $59 + 3 \times 3 = 68$ (G) · $9 \times 10 - 16 = 74$ (M) · $7 + 2 \times 3 = 13$ (H) · $14 + 6 \times 6 = 50$ (R) · $7 + 6 \times 5 = 37$ (F) · $5 \times 9 - 11 = 34$ (P) · $10 \times 9 - 24 = 66$ (O) · $11 \times 8 - 10 = 78$ (C) · $35 + 6 \times 4 = 59$ (N) · $9 \times 5 - 9 = 36$ (A) · $4 \times 9 - 27 = 9$ (I) · $4 \times 10 - 1 = 39$ (L) · $3 \times 6 - 6 = 12$ (V)

Clue 4 (Multiplication facts (1-12)): "WE FOUND PLATINUM HAIR AT THE MIXING DESK"

$5 \times 4 = 20$ (W) · $11 \times 11 = 121$ (I) · $7 \times 9 = 63$ (N) · $6 \times 8 = 48$ (A) · $9 \times 8 = 72$ (M) · $3 \times 2 = 6$ (K) · $8 \times 8 = 64$ (O) · $5 \times 10 = 50$ (E) · $5 \times 5 = 25$ (H) · $2 \times 12 = 24$ (P) · $2 \times 2 = 4$ (G) · $10 \times 8 = 80$ (D) · $7 \times 8 = 56$ (S) · $6 \times 7 = 42$ (T) · $5 \times 3 = 15$ (F) · $7 \times 5 = 35$ (R) · $12 \times 12 = 144$ (U) · $11 \times 10 = 110$ (L) · $10 \times 6 = 60$ (X)

Clue 5 (Missing addends): surviving statement is box 12 → Adele

$15 + \underline{\quad} = 24 = 9$ · $9 + \underline{\quad} = 19 = 10$ · $35 + \underline{\quad} = 41 = 6$ · $19 + \underline{\quad} = 20 = 1$ · $11 + \underline{\quad} = 22 = 11$ · $18 + \underline{\quad} = 20 = 2$ · $35 + \underline{\quad} = 40 = 5$ · $18 + \underline{\quad} = 22 = 4$ · $40 + \underline{\quad} = 47 = 7$ · $16 + \underline{\quad} = 19 = 3$ · $21 + \underline{\quad} = 29 = 8$