



The Grand Lyric Heist

Grade 6 math · Addition, Subtraction, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

The legendary Golden Pointe Shoes have vanished from the Grand Lyric Theater right before the final curtain call! The Lead Judge is devastated. We must examine the backstage clues to catch the culprit.

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 Phantom Dancer is _____

Possible suspects

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

NAME	SIGNATURE DANCE	STAGE PROP	STARTING FOOT	PERFORMANCE HAIRSTYLE	STAGE DISTRACTION
Fred Astaire	tap solo	silk ribbons	starts on left foot	tight bun	squeaky floorboards
Isadora Duncan	hip hop pop	sparkly cape	starts on left foot	tight bun	squeaky floorboards
Anna Pavlova	jazz leap	sparkly cape	starts on left foot	tight bun	loud feedback
Darcey Bussell	jazz leap	glowing shoes	starts on right foot	tight bun	loud feedback
Misty Copeland	ballet spin	velvet mask	starts on right foot	high ponytail	bright spotlights
Vaslav Nijinsky	tap solo	golden cane	starts on left foot	wild curls	squeaky floorboards
Arthur Mitchell	breakdance freeze	silk ribbons	starts on left foot	tight bun	squeaky floorboards
Maria Tallchief	hip hop pop	sparkly cape	starts on left foot	high ponytail	loud feedback
Alvin Ailey	breakdance freeze	golden cane	starts on right foot	tight bun	loud feedback
Twyla Tharp	hip hop pop	silk ribbons	starts on left foot	tight bun	loud feedback
Margot Fonteyn	tap solo	golden cane	starts on right foot	tight bun	bright spotlights
Carlos Acosta	ballet spin	golden cane	starts on left foot	tight bun	squeaky floorboards
Martha Graham	tap solo	silk ribbons	starts on left foot	high ponytail	squeaky floorboards
Gregory Hines	tap solo	golden cane	starts on left foot	wild curls	loud feedback
Merce Cunningham	jazz leap	golden cane	starts on right foot	high ponytail	bright spotlights
Katherine Dunham	tap solo	golden cane	starts on left foot	tight bun	loud feedback
Gene Kelly	breakdance freeze	velvet mask	starts on left foot	high ponytail	loud feedback
Rudolf Nureyev	tap solo	velvet mask	starts on left foot	tight bun	squeaky floorboards
Bob Fosse	breakdance freeze	velvet mask	starts on right foot	tight bun	squeaky floorboards
Sylvie Guillem	ballet spin	sparkly cape	starts on left foot	high ponytail	loud feedback
George Balanchine	ballet spin	velvet mask	starts on left foot	tight bun	bright spotlights

CLUE 1 Addition

To check the dressing rooms, we must tally up the spare tutus. Let us find the total of these costume racks.

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

T			T											T			
2575	4830	2418	2575	4830	6182	2418	8153	4405	9779	2418	3363	9628	9779	2575	6457	3363	2418

T															
2575	4830	2418	6296	9779	4660	4405	2418	9628	8290	8906	9628	2418			

$1377 + 1198 = \square \rightarrow \text{[T]}$

$1725 + 1638 = \square \rightarrow \text{[S]}$

$2504 + 3792 = \square \rightarrow \text{[G]}$

$3139 + 1521 = \square \rightarrow \text{[L]}$

$3289 + 1541 = \square \rightarrow \text{[H]}$

$3083 + 1322 = \square \rightarrow \text{[D]}$

$3547 + 6081 = \square \rightarrow \text{[N]}$

$4421 + 2036 = \square \rightarrow \text{[U]}$

$923 + 1495 = \square \rightarrow \text{[E]}$

$3017 + 5273 = \square \rightarrow \text{[C]}$

$4670 + 4236 = \square \rightarrow \text{[A]}$

$4390 + 3763 = \square \rightarrow \text{[F]}$

$2900 + 3282 = \square \rightarrow \text{[I]}$

$5331 + 4448 = \square \rightarrow \text{[O]}$

Scratch space:

CLUE 2 Subtraction

The stage manager lost several rolls of grip tape from the inventory. How many rolls are missing now?

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



 1227 4730 6551 4401 1195 4401 8168 6551 5249 1227 4401 1227 5666 5436 1227 4401



 1315 5666 6848 5249 8303 6848 5193 6649 6848 5497 6551 4788 1227 4788 6649 6649 1227

$$2828 - 1601 = \boxed{} \rightarrow \boxed{\text{T}}$$

9118 - 4330 = → **F**

$$4890 - 3575 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$9927 - 3278 = \boxed{} \rightarrow \boxed{0}$$

$$5798 - 605 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$10861 - 4013 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$5576 - 1175 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$11192 - 3024 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$8097 - 2431 = \boxed{} \rightarrow \boxed{\text{A}}$$

$7136 - 1887 = \boxed{} \rightarrow \boxed{\text{C}}$

$$11746 - 3443 = \boxed{} \rightarrow \boxed{1}$$

$7338 - 1902 = \boxed{} \rightarrow \boxed{\text{R}}$

$$1779 - 584 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$6074 - 1344 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$7760 - 2263 = \boxed{} \rightarrow \boxed{\text{L}}$$

$7034 - 483 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 3

Multiplication facts (1-12)

Dancers are lined up in equal rows for the big group routine. We must calculate the total spots on the stage grid.

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

T			T														
84	2	66	84	2	22	66	36	36	3	18	108	120	66	30	40	70	
60	44	3	66	64	1	77	36	120	40	40	16	108	40	64	16	30	60

$12 \times 7 = \square \rightarrow \boxed{\text{T}}$

$6 \times 3 = \square \rightarrow \boxed{\text{M}}$

$5 \times 6 = \square \rightarrow \boxed{\text{D}}$

$1 \times 1 = \square \rightarrow \boxed{\text{K}}$

$1 \times 3 = \square \rightarrow \boxed{\text{U}}$

$3 \times 12 = \square \rightarrow \boxed{\text{F}}$

$11 \times 7 = \square \rightarrow \boxed{\text{Y}}$

$10 \times 6 = \square \rightarrow \boxed{\text{S}}$

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

$8 \times 5 = \square \rightarrow \boxed{\text{O}}$

$12 \times 10 = \square \rightarrow \boxed{\text{L}}$

$11 \times 6 = \square \rightarrow \boxed{\text{E}}$

$2 \times 11 = \square \rightarrow \boxed{\text{I}}$

$2 \times 1 = \square \rightarrow \boxed{\text{H}}$

$4 \times 4 = \square \rightarrow \boxed{\text{R}}$

$10 \times 7 = \square \rightarrow \boxed{\text{N}}$

$4 \times 11 = \square \rightarrow \boxed{\text{Q}}$

$12 \times 9 = \square \rightarrow \boxed{\text{B}}$

Scratch space:

CLUE 4 Rounding

The digital stage timer is glitching and only shows times rounded to the nearest ten. Let us estimate the performance length.

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

A				A			A											A
230	3700	9000	30	230	20	2300	230	500	30	2000	500	130	200	30	370	170	230	
									A									
9000	500	4300	2300	9000	430	1700	130	90	230	3700	200	370	1700	130	3000			

Round 226 to the nearest ten → **A**

Round 19 to the nearest ten → **Y**

Round 368 to the nearest ten → **O**

Round 31 to the nearest ten → **R**

Round 2,313 to the nearest hundred → **H**

Round 166 to the nearest ten → **M**

Round 8,902 to the nearest thousand → **T**

Round 2,918 to the nearest thousand → **D**

Round 501 to the nearest hundred → **I**

Round 167 to the nearest hundred → **F**

Round 4,276 to the nearest hundred → **G**

Round 2,285 to the nearest thousand → **P**

Round 86 to the nearest ten → **W**

Round 3,665 to the nearest hundred → **S**

Round 1,718 to the nearest hundred → **U**

Round 126 to the nearest ten → **N**

Round 429 to the nearest ten → **B**

Scratch space:

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

We need to split the leftover performance medals equally among the dance teams. Let us divide them up.

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:

$84 \div 7 = \boxed{}$

$4 \div 4 = \boxed{}$

$24 \div 6 = \boxed{}$

$35 \div 7 = \boxed{}$

$22 \div 11 = \boxed{}$

$36 \div 4 = \boxed{}$

$96 \div 12 = \boxed{}$

$27 \div 9 = \boxed{}$

$33 \div 3 = \boxed{}$

$56 \div 8 = \boxed{}$

$100 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain performs a speedy tap solo, then twirls colorful silk ribbons.
2. The villain executes a flawless ballet spin, then lights up their glowing shoes.
3. The villain hits a sharp hip hop pop, then points a polished golden cane.
4. The villain drops into a clean breakdance freeze, then twirls colorful silk ribbons.
5. The villain executes a flawless ballet spin, then twirls colorful silk ribbons.
6. The villain performs a speedy tap solo, then adjusts a dark velvet mask.
7. The villain soars in a high jazz leap, then lights up their glowing shoes.
8. The villain executes a flawless ballet spin, then swishes a sparkly cape.
9. The villain soars in a high jazz leap, then swishes a sparkly cape.
10. The villain hits a sharp hip hop pop, then twirls colorful silk ribbons.
11. The villain drops into a clean breakdance freeze, then points a polished golden cane.
12. The villain hits a sharp hip hop pop, then swishes a sparkly cape.

Answer Key

The Grand Lyric Heist

Culprit: Rudolf Nureyev

tap solo · velvet mask · starts on left foot · tight bun · squeaky floorboards

Trail: Start 21 → Clue 1 14 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT USE THE GOLDEN CANE"

$1377 + 1198 = 2575$ (T) · $1725 + 1638 = 3363$ (S) · $2504 + 3792 = 6296$ (G) · $3139 + 1521 = 4660$ (L) · $3289 + 1541 = 4830$ (H) · $3083 + 1322 = 4405$ (D) · $3547 + 6081 = 9628$ (N) · $4421 + 2036 = 6457$ (U) · $923 + 1495 = 2418$ (E) · $3017 + 5273 = 8290$ (C) · $4670 + 4236 = 8906$ (A) · $4390 + 3763 = 8153$ (F) · $2900 + 3282 = 6182$ (I) · $5331 + 4448 = 9779$ (O)

Clue 2 (Subtraction): "THE SUSPECT STARTS DANCING ON LEFT FOOT"

$2828 - 1601 = 1227$ (T) · $9118 - 4330 = 4788$ (F) · $4890 - 3575 = 1315$ (D) · $9927 - 3278 = 6649$ (O) · $5798 - 605 = 5193$ (G) · $10861 - 4013 = 6848$ (N) · $5576 - 1175 = 4401$ (S) · $11192 - 3024 = 8168$ (P) · $8097 - 2431 = 5666$ (A) · $7136 - 1887 = 5249$ (C) · $11746 - 3443 = 8303$ (I) · $7338 - 1902 = 5436$ (R) · $1779 - 584 = 1195$ (U) · $6074 - 1344 = 4730$ (H) · $7760 - 2263 = 5497$ (L) · $7034 - 483 = 6551$ (E)

Clue 3 (Multiplication facts (1-12)): "THE THIEF FUMBLED ON SQUEAKY FLOORBOARDS"

$12 \times 7 = 84$ (T) · $6 \times 3 = 18$ (M) · $5 \times 6 = 30$ (D) · $1 \times 1 = 1$ (K) · $1 \times 3 = 3$ (U) · $3 \times 12 = 36$ (F) · $11 \times 7 = 77$ (Y) · $10 \times 6 = 60$ (S) · $8 \times 8 = 64$ (A) · $8 \times 5 = 40$ (O) · $12 \times 10 = 120$ (L) · $11 \times 6 = 66$ (E) · $2 \times 11 = 22$ (I) · $2 \times 1 = 2$ (H) · $4 \times 4 = 16$ (R) · $10 \times 7 = 70$ (N) · $4 \times 11 = 44$ (Q) · $12 \times 9 = 108$ (B)

Clue 4 (Rounding): "A STRAY HAIRPIN FROM A TIGHT BUN WAS FOUND"

Round 226 to the nearest ten = 230 (A) · Round 19 to the nearest ten = 20 (Y) · Round 368 to the nearest ten = 370 (O) · Round 31 to the nearest ten = 30 (R) · Round 2,313 to the nearest hundred = 2300 (H) · Round 166 to the nearest ten = 170 (M) · Round 8,902 to the nearest thousand = 9000 (T) · Round 2,918 to the nearest thousand = 3000 (D) · Round 501 to the nearest hundred = 500 (I) · Round 167 to the nearest hundred = 200 (F) · Round 4,276 to the nearest hundred = 4300 (G) · Round 2,285 to the nearest thousand = 2000 (P) · Round 86 to the nearest ten = 90 (W) · Round 3,665 to the nearest hundred = 3700 (S) · Round 1,718 to the nearest hundred = 1700 (U) · Round 126 to the nearest ten = 130 (N) · Round 429 to the nearest ten = 430 (B)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Rudolf Nureyev

$84 \div 7 = 12$ · $4 \div 4 = 1$ · $24 \div 6 = 4$ · $35 \div 7 = 5$ · $22 \div 11 = 2$ · $36 \div 4 = 9$ · $96 \div 12 = 8$ · $27 \div 9 = 3$ · $33 \div 3 = 11$ · $56 \div 8 = 7$ · $100 \div 10 = 10$