



Mystery of the Prancing Prowler

Grade 6 math · Place value, Multiplication, Rounding, Bar models, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone snuck into the Purrfect Steps Dance Studio right before the big recital and swapped the grand music scrolls! The detective kittens must trace the clues, solve the math mysteries, and figure out which dancer is 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 Prancing Prowler is _____

Possible suspects

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

NAME	DANCE STYLE	PROP	LEAD PAW	FUR COLOR	DISTRACTION
Lily Vault	Hip Hop Spin	Bowtie Charm	Right Paw Lead	Sleek Black Fur	Yarn Balls
Oliver Tail	Salsa Twirl	Sparkle Shoes	Left Paw Lead	Sleek Black Fur	Catnip Treats
Maya Groove	Hip Hop Spin	Bowtie Charm	Left Paw Lead	Calico Fur	Yarn Balls
Daisy Paws	Jazz Hands	Silver Whistle	Right Paw Lead	Calico Fur	Yarn Balls
Ziggy Trot	Jazz Hands	Bowtie Charm	Right Paw Lead	Calico Fur	Catnip Treats
Oscar Bow	Salsa Twirl	Silver Whistle	Left Paw Lead	Calico Fur	Laser Pointer
Leo Fluff	Tap Dance	Glitter Dust	Right Paw Lead	Calico Fur	Catnip Treats
Penny Spin	Jazz Hands	Glitter Dust	Left Paw Lead	Sleek Black Fur	Yarn Balls
Cleo Taps	Ballet Leap	Glitter Dust	Left Paw Lead	Calico Fur	Laser Pointer
Toby Flutter	Salsa Twirl	Glitter Dust	Right Paw Lead	Calico Fur	Catnip Treats
Bella Whiskers	Ballet Leap	Silver Whistle	Right Paw Lead	Calico Fur	Yarn Balls
Jasper Step	Salsa Twirl	Ribbon Wand	Right Paw Lead	Calico Fur	Laser Pointer
Chloe Shuffle	Hip Hop Spin	Sparkle Shoes	Right Paw Lead	Orange Fur	Catnip Treats
Archie Bop	Hip Hop Spin	Bowtie Charm	Left Paw Lead	Sleek Black Fur	Yarn Balls
Ruby Rhythm	Ballet Leap	Bowtie Charm	Right Paw Lead	Sleek Black Fur	Catnip Treats
Sammy Pounce	Tap Dance	Ribbon Wand	Right Paw Lead	Calico Fur	Catnip Treats
Barnaby Paw	Tap Dance	Bowtie Charm	Right Paw Lead	Sleek Black Fur	Laser Pointer
Zoe Glide	Ballet Leap	Glitter Dust	Right Paw Lead	Orange Fur	Catnip Treats
Mia Glide	Tap Dance	Sparkle Shoes	Right Paw Lead	Calico Fur	Catnip Treats
Felix Twirl	Hip Hop Spin	Glitter Dust	Right Paw Lead	Sleek Black Fur	Catnip Treats
Holly Bound	Tap Dance	Ribbon Wand	Left Paw Lead	Calico Fur	Catnip Treats

CLUE 1

The stage monitor panel shows digital digit slots for each dancer's registration number.

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

4000 2000 60

500 9000 40 40 400 9000 800

30 1000 60 5000 800 1000 4000

300 5000 60

5000 200 400 900 100 40 60

5000 2000 1000 60 5000

What is the value of the 4 in 74,681?

What is the value of the 1 in 647,184?

What is the value of the 6 in 29,264?

A diagram showing a box with an arrow pointing to a box labeled 'E'.

What is the value of the 4 in 93,427?

A diagram showing a transformation. On the left is a rounded rectangle containing a question mark. An arrow points to the right, where another rounded rectangle contains the letter 'A'.

What is the value of the 9 in 18,934?

A diagram showing a mapping from an empty box to a box labeled **R**. The mapping is indicated by a right-pointing arrow.

What is the value of the 3 in 87,322?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to a second box on the right. The second box is identical in shape but contains the letter 'U' in its center.

What is the value of the 9 in 869,841?

□ → □

What is the value of the 5 in 218,563?

? $\rightarrow$ v

What is the value of the 4 in 375,049?

Q → ☒ L

What is the value of the 3 in 90,435?

A diagram showing a box with an arrow pointing to a box labeled 'D'.

What is the value of the 8 in 41,819?

A diagram showing a mapping from an empty box to a box labeled 'N'. An arrow points from an empty box on the left to a box containing the letter 'N' on the right.

What is the value of the 5 in 75,699?

What is the value of the 2 in 482,199?

□ → **H**

What is the value of the 1 in 61,838?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points to the right, where a square box is shown. Inside this square box is a large, bold, black letter 'O'.

What is the value of the 2 in 943,275?

$\square \rightarrow \boxed{P}$

Scratch space:

CLUE 2

Multiplication facts (1-12)

The costume manager organizes equal rows of sparkling dance outfits on backstage racks.

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

W												W						
81	56	35	36	20	121	121	20	121	121	6	81	6	8	56	25	60	35	

		W				
84	6	81	10	20	6	32

$9 \times 9 = \square \rightarrow \boxed{\text{W}}$

$8 \times 4 = \square \rightarrow \boxed{\text{D}}$

$7 \times 5 = \square \rightarrow \boxed{\text{T}}$

$8 \times 7 = \square \rightarrow \boxed{\text{I}}$

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

$5 \times 5 = \square \rightarrow \boxed{\text{G}}$

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

$1 \times 10 = \square \rightarrow \boxed{\text{L}}$

$2 \times 3 = \square \rightarrow \boxed{\text{A}}$

$5 \times 12 = \square \rightarrow \boxed{\text{H}}$

$8 \times 1 = \square \rightarrow \boxed{\text{R}}$

$11 \times 11 = \square \rightarrow \boxed{\text{S}}$

$4 \times 5 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

Rounding

The audience counter on the lobby display board rounds ticket numbers to the nearest hundred.

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

Diagram illustrating the arrangement of boxes in a 3x10 grid. The boxes are arranged in three rows and ten columns. The values in the boxes are as follows:

500	4300	9000	430	3700	1300	1300	900	3700	200	2300	900	130					
3000	3700	130	500	70	900	230	500	9000	3000	110	370	230	900	500	200	3700	20
500	70	9000	900	500	130												

The boxes containing the value 500 are highlighted in orange.

Round 512 to the nearest hundred $\rightarrow$ **T**

Round 127 to the nearest ten $\rightarrow$ **S**

Round 3,749 to the nearest hundred $\rightarrow$

Round 183 to the nearest hundred $\rightarrow$ **N**

Round 434 to the nearest ten $\rightarrow$ **V**

Round 108 to the nearest ten $\rightarrow$ **B**

Round 863 to the nearest hundred → **A**

Round 2,291 to the nearest hundred → **W**

Round 1,341 to the nearest hundred $\rightarrow$ **L**

Round 8,654 to the nearest thousand $\rightarrow$ **E**

Round 23 to the nearest ten $\rightarrow$ **P**

Round 228 to the nearest ten $\rightarrow$ **C**

Round 4,293 to the nearest hundred $\rightarrow$ **H**

Round 74 to the nearest ten $\rightarrow$ **R**

Round 372 to the nearest ten $\rightarrow$ **Y**

Round 3,134 to the nearest thousand $\rightarrow$ **D**

Scratch space:

CLUE 4

Bar model word problems

The choreographer compares practice time blocks on a bar diagram painted on the wall.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A strand of C C R hair turned up at the scene.

77 79 31 104 77 20 43 105

Kitten Dancer shares 154 velvet slippers equally among 2 teams. How many velvet slippers does each team get?

draw a bar model

Answer: → C

One group collected 37 catnip snacks and another group collected 6 catnip snacks. How many catnip snacks in all?

draw a bar model

Answer: → F

One group collected 5 velvet slippers and another group collected 15 velvet slippers. How many velvet slippers in all?

draw a bar model

Answer: → O

Kitten Dancer shares 158 stage lamps equally among 2 teams. How many stage lamps does each team get?

draw a bar model

Answer: → A

Kitten Dancer used $\frac{4}{5}$ of the velvet slippers on the first day. The other 21 velvet slippers were used the next day. How many velvet slippers were there in all?

draw a bar model

Answer: → U

There were 135 dance medals in all. 31 dance medals were used. How many dance medals are left?

draw a bar model

Answer: → I

Kitten Dancer shares 124 dance medals equally among 4 teams. How many dance medals does each team get?

draw a bar model

Answer: → L

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

The lead dancer splits the leftover snack treats equally into practice gift bags.

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:

$70 \div 7 = \boxed{}$

$40 \div 10 = \boxed{}$

$64 \div 8 = \boxed{}$

$120 \div 10 = \boxed{}$

$4 \div 4 = \boxed{}$

$55 \div 5 = \boxed{}$

$99 \div 11 = \boxed{}$

$49 \div 7 = \boxed{}$

$30 \div 10 = \boxed{}$

$30 \div 5 = \boxed{}$

$22 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain jazz danced past the backstage props, then sprinkled glitter dust.
2. The villain leaped through the grand curtain, then blew a silver whistle.
3. The villain twirled around the dance floor, then waved a ribbon wand.
4. The villain twirled around the dance floor, then sprinkled glitter dust.
5. The villain tapped across the wooden stage, then sprinkled glitter dust.
6. The villain tapped across the wooden stage, then blew a silver whistle.
7. The villain leaped through the grand curtain, then adjusted a bowtie charm.
8. The villain jazz danced past the backstage props, then adjusted a bowtie charm.
9. The villain jazz danced past the backstage props, then tapped with sparkle shoes.
10. The villain tapped across the wooden stage, then waved a ribbon wand.
11. The villain twirled around the dance floor, then tapped with sparkle shoes.
12. The villain spun into the spotlight, then adjusted a bowtie charm.

Answer Key

Mystery of the Prancing Prowler

Culprit: Leo Fluff

Tap Dance · Glitter Dust · Right Paw Lead · Calico Fur · Catnip Treats

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT USE SPARKLE SHOES"

What is the value of the 4 in 74,681? = 4000 (T) · What is the value of the 1 in 647,184? = 100 (K) · What is the value of the 6 in 29,264? = 60 (E) · What is the value of the 4 in 93,427? = 400 (A) · What is the value of the 9 in 18,934? = 900 (R) · What is the value of the 3 in 87,322? = 300 (U) · What is the value of the 9 in 869,841? = 9000 (I) · What is the value of the 5 in 218,563? = 500 (V) · What is the value of the 4 in 375,049? = 40 (L) · What is the value of the 3 in 90,435? = 30 (D) · What is the value of the 8 in 41,819? = 800 (N) · What is the value of the 5 in 75,699? = 5000 (S) · What is the value of the 2 in 482,199? = 2000 (H) · What is the value of the 1 in 61,838? = 1000 (O) · What is the value of the 2 in 943,275? = 200 (P)

Clue 2 (Multiplication facts (1-12)): "WITNESSES SAW A RIGHT PAW LEAD"

$9 \times 9 = 81$ (W) · $8 \times 4 = 32$ (D) · $7 \times 5 = 35$ (T) · $8 \times 7 = 56$ (I) · $12 \times 3 = 36$ (N) · $5 \times 5 = 25$ (G) · $12 \times 7 = 84$ (P) · $1 \times 10 = 10$ (L) · $2 \times 3 = 6$ (A) · $5 \times 12 = 60$ (H) · $8 \times 1 = 8$ (R) · $11 \times 11 = 121$ (S) · $4 \times 5 = 20$ (E)

Clue 3 (Rounding): "THE VILLAIN WAS DISTRACTED BY CATNIP TREATS"

Round 512 to the nearest hundred = 500 (T) · Round 127 to the nearest ten = 130 (S) · Round 3,749 to the nearest hundred = 3700 (I) · Round 183 to the nearest hundred = 200 (N) · Round 434 to the nearest ten = 430 (V) · Round 108 to the nearest ten = 110 (B) · Round 863 to the nearest hundred = 900 (A) · Round 2,291 to the nearest hundred = 2300 (W) · Round 1,341 to the nearest hundred = 1300 (L) · Round 8,654 to the nearest thousand = 9000 (E) · Round 23 to the nearest ten = 20 (P) · Round 228 to the nearest ten = 230 (C) · Round 4,293 to the nearest hundred = 4300 (H) · Round 74 to the nearest ten = 70 (R) · Round 372 to the nearest ten = 370 (Y) · Round 3,134 to the nearest thousand = 3000 (D)

Clue 4 (Bar model word problems): "CALICO FUR"

Kitten Dancer shares 154 velvet slippers equally among 2 teams. How many velvet slippers does each team get? = 77 (C) · One group collected 37 catnip snacks and another group collected 6 catnip snacks. How many catnip snacks in all? = 43 (F) · One group collected 5 velvet slippers and another group collected 15 velvet slippers. How many velvet slippers in all? = 20 (O) · Kitten Dancer shares 158 stage lamps equally among 2 teams. How many stage lamps does each team get? = 79 (A) · Kitten Dancer used $\frac{4}{5}$ of the velvet slippers on the first day. The other 21 velvet slippers were used the next day. How many velvet slippers were there in all? = 105 (U) · There were 135 dance medals in all. 31 dance medals were used. How many dance medals are left? = 104 (I) · Kitten Dancer shares 124 dance medals equally among 4 teams. How many dance medals does each team get? = 31 (L)

Clue 5 (Division facts (1-12)): surviving statement is box 5 → Leo Fluff

$70 \div 7 = 10$ · $40 \div 10 = 4$ · $64 \div 8 = 8$ · $120 \div 10 = 12$ · $4 \div 4 = 1$ · $55 \div 5 = 11$ · $99 \div 11 = 9$ · $49 \div 7 = 7$ · $30 \div 10 = 3$ · $30 \div 5 = 6$ · $22 \div 11 = 2$