



The Case of the Golden Chew Toy

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

Detective: _____ **Date:** _____

The Golden Chew Toy has been stolen right before the big Puppy Gymnastics Championship! The Head Judge needs your help to examine the paw prints, chalk marks, and dog fur left behind to catch the sporty 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 gymnastic thief is _____

Possible suspects

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

NAME	SIGNATURE GYMNASTICS MOVE	SPECIAL GEAR	LANDING PAW STANCE	FUR TYPE	FAVORITE TREAT DISTRACTION
Shawn Johnson	perfect handstand	sparkly pink leotard	right pawed stance	shaggy brown curls	shiny laser pointer
Nile Wilson	triple vault twist	glittery ribbon wand	left pawed stance	shaggy brown curls	shiny laser pointer
Dominique Dawes	perfect handstand	sleek balance wristbands	left pawed stance	spotted dalmatian coat	squeaky tennis ball
Mitch Gaylord	triple vault twist	sparkly pink leotard	left pawed stance	spotted dalmatian coat	squeaky tennis ball
Suni Retriever	perfect handstand	bouncy spring shoes	left pawed stance	spotted dalmatian coat	squeaky tennis ball
Mary Lou Retton	perfect handstand	rubbery grip paws	left pawed stance	golden fluffy fur	shiny laser pointer
Nastia Licking	perfect handstand	glittery ribbon wand	left pawed stance	spotted dalmatian coat	shiny laser pointer
Simone Barks	giant high bar swing	glittery ribbon wand	right pawed stance	spotted dalmatian coat	shiny laser pointer
Gabby Poodle	triple vault twist	sparkly pink leotard	left pawed stance	golden fluffy fur	shiny laser pointer
Shannon Miller	double backflip	bouncy spring shoes	right pawed stance	spotted dalmatian coat	shiny laser pointer
Carly Patterson	triple vault twist	sleek balance wristbands	right pawed stance	spotted dalmatian coat	shiny laser pointer
Shilese Jones	perfect handstand	bouncy spring shoes	left pawed stance	golden fluffy fur	shiny laser pointer
Jordan Chiles	balance beam walk	rubbery grip paws	left pawed stance	spotted dalmatian coat	smelly bacon strip
Chellsie Memmel	triple vault twist	sleek balance wristbands	left pawed stance	shaggy brown curls	squeaky tennis ball
Paul Hamm	perfect handstand	sleek balance wristbands	right pawed stance	golden fluffy fur	shiny laser pointer
Aly Raispup	triple vault twist	sleek balance wristbands	left pawed stance	golden fluffy fur	shiny laser pointer
Kohei Uchidog	giant high bar swing	sleek balance wristbands	left pawed stance	golden fluffy fur	shiny laser pointer
Bart Conner	balance beam walk	rubbery grip paws	right pawed stance	golden fluffy fur	shiny laser pointer
Alexei Nemov	triple vault twist	glittery ribbon wand	left pawed stance	golden fluffy fur	smelly bacon strip
Vitaly Scherbo	double backflip	sparkly pink leotard	left pawed stance	spotted dalmatian coat	shiny laser pointer
Coach Bowser	perfect handstand	glittery ribbon wand	right pawed stance	spotted dalmatian coat	shiny laser pointer

CLUE 1

Multiplication facts (1-12)

Coach Bowser counts the crates of pup chalk. There are several stacks with equal amounts in each. We multiply the rows to find the total and unlock a clue about the thief's gear!

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

T			T											T				
42	24	35	42	24	16	35	81	63	56	35	12	77	56	42	90	35	40	121
27	56	96	77	88	5	12	55	121	16	77	6	12	24	56	35	12		

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

$6 \times 1 = \square \rightarrow \text{G}$

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

$9 \times 10 = \square \rightarrow \text{W}$

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

$4 \times 4 = \square \rightarrow \text{I}$

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

$4 \times 10 = \square \rightarrow \text{A}$

$8 \times 12 = \square \rightarrow \text{U}$

$5 \times 1 = \square \rightarrow \text{Y}$

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

$3 \times 9 = \square \rightarrow \text{B}$

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

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

$2 \times 6 = \square \rightarrow \text{S}$

$9 \times 9 = \square \rightarrow \text{F}$

$8 \times 3 = \square \rightarrow \text{H}$

$11 \times 7 = \square \rightarrow \text{N}$

Scratch space:

CLUE 2 Rounding

The big electronic scoreboard is glitching! It only shows the scores rounded to the nearest ten. We round the puppy gymnast's score to get the system working and reveal a clue about their stance.

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

T																			
2900	3700	900	50	110	1300	1100	9000	90	2900	5000	1300	20	5000	200	430	110	430	900	430
				T															
5000	1300	900	2300	2900	1100	5000	20	900	4300	430	2900	5000	70	50	900				

Round 2,914 to the nearest hundred → **T**

Round 20 to the nearest ten → **W**

Round 54 to the nearest ten → **C**

Round 8,907 to the nearest thousand → **R**

Round 4,344 to the nearest hundred → **D**

Round 106 to the nearest ten → **U**

Round 92 to the nearest ten → **I**

Round 917 to the nearest hundred → **E**

Round 67 to the nearest ten → **N**

Round 433 to the nearest ten → **S**

Round 238 to the nearest hundred → **Y**

Round 5,204 to the nearest thousand → **A**

Round 1,135 to the nearest hundred → **P**

Round 3,699 to the nearest hundred → **H**

Round 2,341 to the nearest hundred → **F**

Round 1,303 to the nearest hundred → **L**

Scratch space:

CLUE 3 Addition

We need to find the total weight of all the soft safety mats. By adding the weights of the blue mats and the red mats together, we find a clue about the villain's fur!

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

T																
2894	7395	9595	8341	3524	2955	2955	9640	3524	6626	2724	7395	9640	7713	9595	7713	9640
														T		
7713	7395	3524	6626	5976	2955	9640	7713	9595	4961	6235	2651	3524	6626	2894	9595	4961

$1951 + 943 = \square \rightarrow \text{[T]}$

$3763 + 2472 = \square \rightarrow \text{[P]}$

$2469 + 3507 = \square \rightarrow \text{[Y]}$

$3239 + 4156 = \square \rightarrow \text{[H]}$

$5569 + 4026 = \square \rightarrow \text{[E]}$

$1432 + 1292 = \square \rightarrow \text{[C]}$

$3725 + 4616 = \square \rightarrow \text{[V]}$

$1000 + 1651 = \square \rightarrow \text{[O]}$

$2267 + 1257 = \square \rightarrow \text{[I]}$

$6344 + 3296 = \square \rightarrow \text{[A]}$

$2358 + 2603 = \square \rightarrow \text{[R]}$

$1822 + 1133 = \square \rightarrow \text{[L]}$

$5113 + 2600 = \square \rightarrow \text{[S]}$

$1994 + 4632 = \square \rightarrow \text{[N]}$

Scratch space:

CLUE 4

Subtraction

The pup gymnasts started with a big bag of dog treats, but some are missing! We subtract the remaining treats from the starting amount to see how many were stolen and find a clue about their weakness.

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

W															
5560	7120	1331	1965	8423	7548	7171	6947	2939	6336	7159	7548	7171	6947	1965	1331
4032	1965	5686	7171	7120	7548	1331	5686	8423	1331	1331	3674	1331	8423	6336	

$6830 - 1270 = \square \rightarrow \boxed{\text{W}}$

$9204 - 2045 = \square \rightarrow \boxed{\text{A}}$

$7882 - 2196 = \square \rightarrow \boxed{\text{L}}$

$8225 - 1105 = \square \rightarrow \boxed{\text{E}}$

$11730 - 4783 = \square \rightarrow \boxed{\text{S}}$

$6936 - 2904 = \square \rightarrow \boxed{\text{G}}$

$2922 - 957 = \square \rightarrow \boxed{\text{O}}$

$7706 - 158 = \square \rightarrow \boxed{\text{N}}$

$10346 - 3175 = \square \rightarrow \boxed{\text{D}}$

$7405 - 4466 = \square \rightarrow \boxed{\text{T}}$

$12014 - 3591 = \square \rightarrow \boxed{\text{U}}$

$5784 - 4453 = \square \rightarrow \boxed{\text{F}}$

$10353 - 4017 = \square \rightarrow \boxed{\text{R}}$

$5795 - 2121 = \square \rightarrow \boxed{\text{Y}}$

Scratch space:

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

We have a big bowl of shiny medals to share equally among the winning teams. By dividing the medals into equal groups, we find the final clue to solve the mystery!

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:

$11 \div 1 = \boxed{}$

$20 \div 5 = \boxed{}$

$96 \div 8 = \boxed{}$

$108 \div 12 = \boxed{}$

$8 \div 8 = \boxed{}$

$72 \div 12 = \boxed{}$

$33 \div 11 = \boxed{}$

$2 \div 1 = \boxed{}$

$88 \div 11 = \boxed{}$

$120 \div 12 = \boxed{}$

$20 \div 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain performs a flawless double backflip, then twirls a glittery ribbon wand.
2. The villain swings wildly on the giant high bar, then twirls a glittery ribbon wand.
3. The villain holds a perfect handstand on the beam, then twirls a glittery ribbon wand.
4. The villain sticks a landing after a triple vault twist, then shows off a sparkly pink leotard.
5. The villain holds a perfect handstand on the beam, then springs high in bouncy spring shoes.
6. The villain struts across the high balance beam, then springs high in bouncy spring shoes.
7. The villain holds a perfect handstand on the beam, then adjusts their rubbery grip paws.
8. The villain holds a perfect handstand on the beam, then shows off a sparkly pink leotard.
9. The villain struts across the high balance beam, then shows off a sparkly pink leotard.
10. The villain struts across the high balance beam, then wipes down their sleek balance wristbands.
11. The villain sticks a landing after a triple vault twist, then wipes down their sleek balance wristbands.
12. The villain swings wildly on the giant high bar, then wipes down their sleek balance wristbands.

Answer Key

The Case of the Golden Chew Toy

Culprit: Mary Lou Retton

perfect handstand · rubbery grip paws · left pawed stance · golden fluffy fur · shiny laser pointer

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

Clue 1 (Multiplication facts (1-12)): "THE THIEF DOES NOT WEAR BOUNCY SPRING SHOES"

$7 \times 6 = 42$ (T) · $6 \times 1 = 6$ (G) · $11 \times 11 = 121$ (R) · $9 \times 10 = 90$ (W) · $7 \times 8 = 56$ (O) · $4 \times 4 = 16$ (I) · $7 \times 9 = 63$ (D) · $4 \times 10 = 40$ (A) · $8 \times 12 = 96$ (U) · $5 \times 1 = 5$ (Y) · $11 \times 8 = 88$ (C) · $3 \times 9 = 27$ (B) · $5 \times 7 = 35$ (E) · $11 \times 5 = 55$ (P) · $2 \times 6 = 12$ (S) · $9 \times 9 = 81$ (F) · $8 \times 3 = 24$ (H) · $11 \times 7 = 77$ (N)

Clue 2 (Rounding): "THE CULPRIT ALWAYS USES A LEFT PAWED STANCE"

Round 2,914 to the nearest hundred = 2900 (T) · Round 20 to the nearest ten = 20 (W) · Round 54 to the nearest ten = 50 (C) · Round 8,907 to the nearest thousand = 9000 (R) · Round 4,344 to the nearest hundred = 4300 (D) · Round 106 to the nearest ten = 110 (U) · Round 92 to the nearest ten = 90 (I) · Round 917 to the nearest hundred = 900 (E) · Round 67 to the nearest ten = 70 (N) · Round 433 to the nearest ten = 430 (S) · Round 238 to the nearest hundred = 200 (Y) · Round 5,204 to the nearest thousand = 5000 (A) · Round 1,135 to the nearest hundred = 1100 (P) · Round 3,699 to the nearest hundred = 3700 (H) · Round 2,341 to the nearest hundred = 2300 (F) · Round 1,303 to the nearest hundred = 1300 (L)

Clue 3 (Addition): "THE VILLAIN CHASES A SHINY LASER POINTER"

$1951 + 943 = 2894$ (T) · $3763 + 2472 = 6235$ (P) · $2469 + 3507 = 5976$ (Y) · $3239 + 4156 = 7395$ (H) · $5569 + 4026 = 9595$ (E) · $1432 + 1292 = 2724$ (C) · $3725 + 4616 = 8341$ (V) · $1000 + 1651 = 2651$ (O) · $2267 + 1257 = 3524$ (I) · $6344 + 3296 = 9640$ (A) · $2358 + 2603 = 4961$ (R) · $1822 + 1133 = 2955$ (L) · $5113 + 2600 = 7713$ (S) · $1994 + 4632 = 6626$ (N)

Clue 4 (Subtraction): "WE FOUND STRANDS OF GOLDEN FLUFFY FUR"

$6830 - 1270 = 5560$ (W) · $9204 - 2045 = 7159$ (A) · $7882 - 2196 = 5686$ (L) · $8225 - 1105 = 7120$ (E) · $11730 - 4783 = 6947$ (S) · $6936 - 2904 = 4032$ (G) · $2922 - 957 = 1965$ (O) · $7706 - 158 = 7548$ (N) · $10346 - 3175 = 7171$ (D) · $7405 - 4466 = 2939$ (T) · $12014 - 3591 = 8423$ (U) · $5784 - 4453 = 1331$ (F) · $10353 - 4017 = 6336$ (R) · $5795 - 2121 = 3674$ (Y)

Clue 5 (Division facts (1-12)): surviving statement is box 7 → Mary Lou Retton

$11 \div 1 = 11$ · $20 \div 5 = 4$ · $96 \div 8 = 12$ · $108 \div 12 = 9$ · $8 \div 8 = 1$ · $72 \div 12 = 6$ · $33 \div 11 = 3$ · $2 \div 1 = 2$ · $88 \div 11 = 8$ · $120 \div 12 = 10$ · $20 \div 4 = 5$