



The Case of the Golden Fish Trophy

Grade 4 math · Place value, Multiplication, Rounding, Fractions of a number, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

During the annual cat show at Purrfect Paws, the famous Golden Fish Trophy disappeared from its velvet pedestal! Clues were left behind all over the show floor. Solve the math problems to gather evidence and unmask the sneaky feline!

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 Cat Burglar is _____

Possible suspects

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

NAME	GADGET	SNACK	WHISTLE	FUR TRACE	DISLIKE
Ziggy Bounce	mechanical mouse	salmon bite	gold whistle	white fur	rustling bag
Chester Meow	catnip launcher	chicken chew	silver whistle	orange fur	rustling bag
Chloe Mitten	yarn ball	sardine snack	silver whistle	white fur	spray bottle
Molly Purrton	catnip launcher	milk saucer	gold whistle	black fur	rustling bag
Luna Shadow	yarn ball	chicken chew	gold whistle	white fur	vacuum cleaner
Hazel Pouncer	catnip launcher	tuna treat	gold whistle	orange fur	rustling bag
Loki Slink	mechanical mouse	tuna treat	gold whistle	white fur	vacuum cleaner
Ruby Patter	catnip launcher	chicken chew	silver whistle	white fur	rustling bag
Sasha Scamper	yarn ball	tuna treat	silver whistle	white fur	vacuum cleaner
Leo Tail	mechanical mouse	tuna treat	gold whistle	orange fur	vacuum cleaner
Cleo Whiskers	feather wand	chicken chew	gold whistle	black fur	spray bottle
Daisy Leaper	yarn ball	chicken chew	silver whistle	orange fur	rustling bag
Oscar Snout	laser pointer	milk saucer	silver whistle	white fur	rustling bag
Penny Fuzz	laser pointer	sardine snack	silver whistle	white fur	rustling bag
Oliver Tabby	mechanical mouse	sardine snack	silver whistle	white fur	rustling bag
Rosie Whiskers	catnip launcher	salmon bite	silver whistle	white fur	rustling bag
Felix Purr	yarn ball	salmon bite	silver whistle	black fur	vacuum cleaner
Simba Claw	mechanical mouse	chicken chew	silver whistle	white fur	spray bottle
Jasper Stripe	mechanical mouse	tuna treat	silver whistle	black fur	spray bottle
Bella Paws	yarn ball	milk saucer	gold whistle	white fur	rustling bag
Nala Velvet	yarn ball	sardine snack	silver whistle	black fur	rustling bag

CLUE 1 Place value

To open the lockbox that holds the first clue, you must inspect the digit in the tens place on the keypad.

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

T									T										
800	600	2000	400	3000	700	60	1000	10	800	50	10	50	70	90	800	3000	6000	2000	
80	400	600	10	400	8000	2000	70	400	600	2000	40								

What is the value of the 8 in 830? → **T**

What is the value of the 6 in 4,685? → **H**

What is the value of the 7 in 5,872? → **N**

What is the value of the 2 in 62,744? → **E**

What is the value of the 4 in 347? → **W**

What is the value of the 8 in 6,984? → **A**

What is the value of the 6 in 364? → **P**

What is the value of the 1 in 8,719? → **I**

What is the value of the 5 in 259? → **D**

What is the value of the 8 in 8,733? → **K**

What is the value of the 3 in 3,746? → **U**

What is the value of the 7 in 729? → **L**

What is the value of the 9 in 695? → **O**

What is the value of the 6 in 6,409? → **S**

What is the value of the 1 in 1,505? → **R**

What is the value of the 4 in 436? → **C**

Scratch space:

CLUE 2

Multiplication facts (1-12)

You count equal rows of cat treats stored in the pantry to reveal how many total items were moved.

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

W									W							
22	12	55	6	84	56	56	56	36	22	36	56	12	16	4	84	21

W													
22	42	12	56	55	16	84	42	36	6	40	12	6	40

$2 \times 11 = \square \rightarrow \boxed{W}$

$4 \times 4 = \square \rightarrow \boxed{L}$

$10 \times 4 = \square \rightarrow \boxed{G}$

$7 \times 6 = \square \rightarrow \boxed{H}$

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

$7 \times 12 = \square \rightarrow \boxed{E}$

$9 \times 4 = \square \rightarrow \boxed{A}$

$1 \times 12 = \square \rightarrow \boxed{I}$

$7 \times 3 = \square \rightarrow \boxed{R}$

$3 \times 2 = \square \rightarrow \boxed{N}$

$4 \times 1 = \square \rightarrow \boxed{V}$

$5 \times 11 = \square \rightarrow \boxed{T}$

Scratch space:

CLUE 3
Rounding

The digital paw scanner only shows estimated counts, so you round the score to the nearest ten.

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

T			T					T								T		T		
500	2000	1100	500	110	200	9000	1100	500	200	110	1300	110	500		500	2000	1100			
											T									
1700	2900	300	1300	130	2900	430	110	200	300	1700	500	20	70	1300	9000	7000	110	9000		

Round 544 to the nearest hundred → **T**

Round 8,622 to the nearest thousand → **G**

Round 209 to the nearest hundred → **R**

Round 1,314 to the nearest hundred → **N**

Round 2,927 to the nearest hundred → **O**

Round 429 to the nearest ten → **F**

Round 1,736 to the nearest hundred → **S**

Round 128 to the nearest ten → **D**

Round 1,539 to the nearest thousand → **H**

Round 7,139 to the nearest thousand → **B**

Round 17 to the nearest ten → **L**

Round 108 to the nearest ten → **A**

Round 1,079 to the nearest hundred → **E**

Round 267 to the nearest hundred → **U**

Round 74 to the nearest ten → **I**

Scratch space:

CLUE 4
Fractions of a number

You inspect a tray of collar bells and calculate what fraction of them belong to the suspect.

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

A																	
12	7	18	40	28	25	35	10	6	34	14	20	15	25	35	34	40	10
	A												A				
14	12	28	18	35	34	25	6	23	25	20	35	7	20	12	15	10	

$4/8 \text{ of } 24 = \square \rightarrow \boxed{\mathbf{A}}$

$2/6 \text{ of } 105 = \square \rightarrow \boxed{\mathbf{E}}$

$8/10 \text{ of } 50 = \square \rightarrow \boxed{\mathbf{U}}$

$3/5 \text{ of } 30 = \square \rightarrow \boxed{\mathbf{L}}$

$2/6 \text{ of } 21 = \square \rightarrow \boxed{\mathbf{C}}$

$1/4 \text{ of } 112 = \square \rightarrow \boxed{\mathbf{S}}$

$1/8 \text{ of } 184 = \square \rightarrow \boxed{\mathbf{N}}$

$3/4 \text{ of } 20 = \square \rightarrow \boxed{\mathbf{I}}$

$1/2 \text{ of } 40 = \square \rightarrow \boxed{\mathbf{H}}$

$1/4 \text{ of } 100 = \square \rightarrow \boxed{\mathbf{T}}$

$2/8 \text{ of } 136 = \square \rightarrow \boxed{\mathbf{F}}$

$2/8 \text{ of } 24 = \square \rightarrow \boxed{\mathbf{O}}$

$4/6 \text{ of } 21 = \square \rightarrow \boxed{\mathbf{W}}$

$1/10 \text{ of } 100 = \square \rightarrow \boxed{\mathbf{R}}$

Scratch space:

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

To divide the rescued toy mice equally into evidence bags, solve this sharing problem.

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:

$11 \div 11 = \square$

$28 \div 7 = \square$

$96 \div 8 = \square$

$24 \div 12 = \square$

$90 \div 9 = \square$

$54 \div 6 = \square$

$70 \div 10 = \square$

$54 \div 9 = \square$

$24 \div 3 = \square$

$35 \div 7 = \square$

$18 \div 6 = \square$

Step 2 - cross out the sentence with each answer:

1. The villain fired a catnip launcher into the air, then left a salmon bite near the door.
2. The villain zapped the vault with a laser pointer, then dropped a tuna treat on the rug.
3. The villain fired a catnip launcher into the air, then spilled a milk saucer by the counter.
4. The villain deployed a mechanical mouse across the floor, then offered a sardine snack to the guard.
5. The villain waved a feather wand to distract everyone, then spilled a milk saucer by the counter.
6. The villain fired a catnip launcher into the air, then dropped a tuna treat on the rug.
7. The villain deployed a mechanical mouse across the floor, then left a salmon bite near the door.
8. The villain rolled a yarn ball through the hallway, then spilled a milk saucer by the counter.
9. The villain waved a feather wand to distract everyone, then tossed a chicken chew onto the couch.
10. The villain zapped the vault with a laser pointer, then left a salmon bite near the door.
11. The villain zapped the vault with a laser pointer, then offered a sardine snack to the guard.
12. The villain zapped the vault with a laser pointer, then spilled a milk saucer by the counter.

Answer Key

The Case of the Golden Fish Trophy

Culprit: Penny Fuzz

laser pointer · sardine snack · silver whistle · white fur · rustling bag

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE CULPRIT DID NOT USE A CHICKEN CHEW"

What is the value of the 8 in 830? = 800 (T) · What is the value of the 6 in 4,685? = 600 (H) · What is the value of the 7 in 5,872? = 70 (N) · What is the value of the 2 in 62,744? = 2000 (E) · What is the value of the 4 in 347? = 40 (W) · What is the value of the 8 in 6,984? = 80 (A) · What is the value of the 6 in 364? = 60 (P) · What is the value of the 1 in 8,719? = 10 (I) · What is the value of the 5 in 259? = 50 (D) · What is the value of the 8 in 8,733? = 8000 (K) · What is the value of the 3 in 3,746? = 3000 (U) · What is the value of the 7 in 729? = 700 (L) · What is the value of the 9 in 695? = 90 (O) · What is the value of the 6 in 6,409? = 6000 (S) · What is the value of the 1 in 1,505? = 1000 (R) · What is the value of the 4 in 436? = 400 (C)

Clue 2 (Multiplication facts (1-12)): "WITNESS SAW A SILVER WHISTLE HANGING"

$2 \times 11 = 22$ (W) · $4 \times 4 = 16$ (L) · $10 \times 4 = 40$ (G) · $7 \times 6 = 42$ (H) · $8 \times 7 = 56$ (S) · $7 \times 12 = 84$ (E) · $9 \times 4 = 36$ (A) · $1 \times 12 = 12$ (I) · $7 \times 3 = 21$ (R) · $3 \times 2 = 6$ (N) · $4 \times 1 = 4$ (V) · $5 \times 11 = 55$ (T)

Clue 3 (Rounding): "THE TARGET RAN AT THE SOUND OF A RUSTLING BAG"

Round 544 to the nearest hundred = 500 (T) · Round 8,622 to the nearest thousand = 9000 (G) · Round 209 to the nearest hundred = 200 (R) · Round 1,314 to the nearest hundred = 1300 (N) · Round 2,927 to the nearest hundred = 2900 (O) · Round 429 to the nearest ten = 430 (F) · Round 1,736 to the nearest hundred = 1700 (S) · Round 128 to the nearest ten = 130 (D) · Round 1,539 to the nearest thousand = 2000 (H) · Round 7,139 to the nearest thousand = 7000 (B) · Round 17 to the nearest ten = 20 (L) · Round 108 to the nearest ten = 110 (A) · Round 1,079 to the nearest hundred = 1100 (E) · Round 267 to the nearest hundred = 300 (U) · Round 74 to the nearest ten = 70 (I)

Clue 4 (Fractions of a number): "A CLUSTER OF WHITE FUR WAS LEFT ON THE CHAIR"

$\frac{4}{8}$ of 24 = 12 (A) · $\frac{2}{6}$ of 105 = 35 (E) · $\frac{8}{10}$ of 50 = 40 (U) · $\frac{3}{5}$ of 30 = 18 (L) · $\frac{2}{6}$ of 21 = 7 (C) · $\frac{1}{4}$ of 112 = 28 (S) · $\frac{1}{8}$ of 184 = 23 (N) · $\frac{3}{4}$ of 20 = 15 (I) · $\frac{1}{2}$ of 40 = 20 (H) · $\frac{1}{4}$ of 100 = 25 (T) · $\frac{2}{8}$ of 136 = 34 (F) · $\frac{2}{8}$ of 24 = 6 (O) · $\frac{4}{6}$ of 21 = 14 (W) · $\frac{1}{10}$ of 100 = 10 (R)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Penny Fuzz

$11 \div 11 = 1$ · $28 \div 7 = 4$ · $96 \div 8 = 12$ · $24 \div 12 = 2$ · $90 \div 9 = 10$ · $54 \div 6 = 9$ · $70 \div 10 = 7$ · $54 \div 9 = 6$ · $24 \div 3 = 8$ · $35 \div 7 = 5$ · $18 \div 6 = 3$