



# The Case of the Golden Catnip Trophy

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: \_\_\_\_\_ Date: \_\_\_\_\_

The Grand Meow-politan Museum has been raided! The legendary Golden Catnip Trophy has vanished from its velvet cushion, leaving behind a trail of dusty paw prints. Dr. Purrington, the museum curator, needs your help. The suspect is one of twenty-four famous felines attending the annual Fancy Cat Gala. You must analyze the evidence, solve the math puzzles, and catch the thief before they slip away into the night!

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      | SUPER SKILL        | SECRET GADGET        | DOMINANT PAW | FUR COAT STYLE         | DISTRACTION WEAKNESS |
|-----------|--------------------|----------------------|--------------|------------------------|----------------------|
| Boots     | Super High Jump    | Noodle Squeak Toy    | Left Pawed   | Ginger Tabby Stripes   | Squeaky Toy Sound    |
| Sylvester | Super High Jump    | Glider Squirrel Suit | Right Pawed  | Ginger Tabby Stripes   | Crinkly Foil Ball    |
| Simba     | Ultra Loud Purring | Catnip Smoke Bomb    | Right Pawed  | Tuxedo Black and White | Crinkly Foil Ball    |
| Gizmo     | Wall Climbing      | Catnip Smoke Bomb    | Left Pawed   | Tuxedo Black and White | Squeaky Toy Sound    |
| Oreo      | Laser Eye Focus    | Grappling Yarn Hook  | Left Pawed   | Ginger Tabby Stripes   | Bright Laser Dot     |
| Barnaby   | Silent Prowling    | Noodle Squeak Toy    | Left Pawed   | Tuxedo Black and White | Squeaky Toy Sound    |
| Whiskers  | Silent Prowling    | Glider Squirrel Suit | Left Pawed   | Tuxedo Black and White | Squeaky Toy Sound    |
| Oliver    | Wall Climbing      | Micro Laser Pointer  | Right Pawed  | Calico Patches         | Crinkly Foil Ball    |
| Socks     | Wall Climbing      | Catnip Smoke Bomb    | Right Pawed  | Tuxedo Black and White | Crinkly Foil Ball    |
| Penelope  | Laser Eye Focus    | Glider Squirrel Suit | Right Pawed  | Tuxedo Black and White | Bright Laser Dot     |
| Luna      | Wall Climbing      | Catnip Smoke Bomb    | Right Pawed  | Tuxedo Black and White | Squeaky Toy Sound    |
| Felix     | Ultra Loud Purring | Grappling Yarn Hook  | Right Pawed  | Tuxedo Black and White | Crinkly Foil Ball    |
| Tom       | Super High Jump    | Noodle Squeak Toy    | Right Pawed  | Calico Patches         | Crinkly Foil Ball    |
| Tigger    | Silent Prowling    | Catnip Smoke Bomb    | Right Pawed  | Tuxedo Black and White | Crinkly Foil Ball    |
| Rusty     | Ultra Loud Purring | Glider Squirrel Suit | Left Pawed   | Tuxedo Black and White | Squeaky Toy Sound    |
| Garfield  | Silent Prowling    | Catnip Smoke Bomb    | Left Pawed   | Tuxedo Black and White | Crinkly Foil Ball    |
| Milo      | Silent Prowling    | Grappling Yarn Hook  | Left Pawed   | Tuxedo Black and White | Crinkly Foil Ball    |
| Duchess   | Laser Eye Focus    | Micro Laser Pointer  | Right Pawed  | Calico Patches         | Squeaky Toy Sound    |
| Bella     | Laser Eye Focus    | Glider Squirrel Suit | Right Pawed  | Tuxedo Black and White | Crinkly Foil Ball    |
| Chloe     | Super High Jump    | Grappling Yarn Hook  | Right Pawed  | Calico Patches         | Crinkly Foil Ball    |
| Mittens   | Wall Climbing      | Glider Squirrel Suit | Right Pawed  | Calico Patches         | Squeaky Toy Sound    |

### CLUE 1

We found a torn blueprint of the museum's layout. Only a fraction of the rooms have security cameras, and the stolen map shows exactly how many are active. Let's calculate that fraction to uncover our first clue about the thief's gear!

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

A 2x10 grid of boxes. The top row contains the following sequence: an orange box with 'T', three empty boxes, an orange box with 'T', and seven empty boxes. The bottom row contains the following sequence: three empty boxes, an orange box with 'T', and seven empty boxes. Below each box is a number. The top row numbers are: 26, 36, 22, 9, 11, 9, 34, 22, 29, 26, 5, 10, 22, 9, 18, 10, 26. The bottom row numbers are: 11, 9, 22, 16, 9, 39, 11, 14, 33, 33, 22, 21, 9, 11, 14, 26.

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| T  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26 | 36 | 22 | 9  | 11 | 9  | 34 | 22 | 29 | 26 | 5  | 10 | 22 | 9  | 18 | 10 | 26 |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11 | 9  | 22 | 16 | 9  | 39 | 11 | 14 | 33 | 33 | 22 | 21 | 9  | 11 | 14 | 26 |    |

4/10 of 65 =  → **T**

$1/2$  of 44 =   $\rightarrow$  **E**

$2/4$  of 58 =  → **C**

$$4/10 \text{ of } 35 = \boxed{\phantom{00}} \rightarrow \boxed{\text{I}}$$

$\frac{2}{3}$  of 15 =   $\rightarrow$

$\frac{1}{4}$  of 44 =   $\rightarrow$  **U**

3/6 of 36 =  → **N**

$2/6$  of  $102 = \square \rightarrow \boxed{\text{P}}$

$2/8$  of  $84 = \square \rightarrow \boxed{\text{L}}$

8/10 of 45 =  → **H**

$5/8$  of 8 =  → **D**

$\frac{1}{4}$  of 64 =   $\rightarrow$  **A**

6/10 of 15 =  → **S**

$2/4$  of 66 =   $\rightarrow$  **R**

$$\frac{1}{3} \text{ of } 117 = \boxed{\phantom{000}} \rightarrow \boxed{\text{Q}}$$

Scratch space:

## CLUE 2 Order of operations

To bypass the museum's digital security safe, the thief entered a scrambled mathematical code. By solving this order of operations puzzle, we can crack the code and discover how the culprit moved during the heist!

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|---|
| T  |    |    |    |    |    |    |    |    |    | T  |    |    |    |    |    |    |    |  |   |
| 69 | 10 | 24 | 65 | 43 | 52 | 63 | 24 | 28 | 69 | 15 | 43 | 55 | 10 | 20 | 10 | 11 | 63 |  |   |
|    |    |    |    | T  |    |    |    |    |    |    |    |    | T  |    |    |    |    |  | T |
| 15 | 7  | 65 | 10 | 69 | 55 | 11 | 79 | 55 | 15 | 7  | 28 | 69 | 53 | 43 | 28 | 7  | 69 |  |   |

|                                                   |                                                   |                                                   |
|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| $6 + 7 \times 9 = \square \rightarrow$ <b>T</b>   | $11 \times 7 - 12 = \square \rightarrow$ <b>G</b> | $1 + 2 \times 3 = \square \rightarrow$ <b>I</b>   |
| $11 \times 2 - 7 = \square \rightarrow$ <b>R</b>  | $6 \times 4 - 4 = \square \rightarrow$ <b>Y</b>   | $7 + 6 \times 8 = \square \rightarrow$ <b>P</b>   |
| $9 \times 6 - 1 = \square \rightarrow$ <b>S</b>   | $5 \times 7 - 11 = \square \rightarrow$ <b>E</b>  | $16 + 7 \times 9 = \square \rightarrow$ <b>W</b>  |
| $4 + 2 \times 3 = \square \rightarrow$ <b>H</b>   | $5 \times 7 - 24 = \square \rightarrow$ <b>A</b>  | $11 \times 4 - 16 = \square \rightarrow$ <b>N</b> |
| $7 \times 12 - 21 = \square \rightarrow$ <b>D</b> | $28 + 5 \times 3 = \square \rightarrow$ <b>O</b>  | $27 + 5 \times 5 = \square \rightarrow$ <b>L</b>  |

Scratch space:

**CLUE 3**
**Multiplication facts (1-12)**

The thief dropped a pack of luxury treats during the escape, arranged in neat rows. If we multiply the rows of treats, we can figure out the total weight and reveal a secret clue about the culprit's hair!

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

|   |    |     |    |    |    |     |    |    |     |    |    |    |    |    |    |
|---|----|-----|----|----|----|-----|----|----|-----|----|----|----|----|----|----|
| C |    |     |    |    |    |     |    |    |     |    |    |    |    |    |    |
| 9 | 70 | 108 | 48 | 11 | 40 | 132 | 35 | 72 | 108 | 40 | 96 | 60 | 40 | 40 | 24 |

  

|    |   |    |    |     |   |    |    |     |   |    |    |    |    |    |     |
|----|---|----|----|-----|---|----|----|-----|---|----|----|----|----|----|-----|
|    | C |    |    |     |   |    |    |     | C |    |    |    |    |    |     |
| 24 | 9 | 60 | 70 | 144 | 1 | 32 | 66 | 144 | 9 | 60 | 32 | 60 | 81 | 60 | 132 |

|                                              |                                               |                                               |                                             |
|----------------------------------------------|-----------------------------------------------|-----------------------------------------------|---------------------------------------------|
| $3 \times 3 = \square \rightarrow$ <b>C</b>  | $11 \times 12 = \square \rightarrow$ <b>Y</b> | $5 \times 8 = \square \rightarrow$ <b>L</b>   |                                             |
| $12 \times 9 = \square \rightarrow$ <b>I</b> | $8 \times 9 = \square \rightarrow$ <b>O</b>   | $4 \times 8 = \square \rightarrow$ <b>T</b>   | $7 \times 5 = \square \rightarrow$ <b>F</b> |
| $4 \times 12 = \square \rightarrow$ <b>N</b> | $8 \times 12 = \square \rightarrow$ <b>B</b>  | $10 \times 6 = \square \rightarrow$ <b>A</b>  |                                             |
| $9 \times 9 = \square \rightarrow$ <b>W</b>  | $10 \times 7 = \square \rightarrow$ <b>R</b>  | $12 \times 12 = \square \rightarrow$ <b>E</b> |                                             |
| $6 \times 11 = \square \rightarrow$ <b>H</b> | $1 \times 1 = \square \rightarrow$ <b>D</b>   | $12 \times 2 = \square \rightarrow$ <b>S</b>  |                                             |
| $11 \times 1 = \square \rightarrow$ <b>K</b> |                                               |                                               |                                             |

Scratch space:

## CLUE 4 Rounding

The museum's motion sensors recorded the thief's speed, but the old digital screen only displays rounded numbers. Round the recorded speed to the nearest ten to unlock the data about their physical traits!

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

|          |      |      |      |      |      |      |      |      |      |     |      |     |     |     |     |      |      |    |  |
|----------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|------|------|----|--|
| <b>B</b> |      |      |      |      |      |      |      |      |      |     |      |     |     |     |     |      |      |    |  |
| 900      | 3000 | 1300 | 110  | 2000 | 1300 | 70   | 430  | 2900 | 4300 | 30  | 9000 | 170 | 230 | 290 | 130 | 2900 | 1300 | 50 |  |
|          |      |      |      |      |      |      |      |      |      |     |      |     |     |     |     |      |      |    |  |
| 3000     | 170  | 230  | 9000 | 1300 | 9000 | 9000 | 4300 | 170  | 50   | 110 | 170  | 70  | 170 |     |     |      |      |    |  |

Round 936 to the nearest hundred  → **B**

Round 34 to the nearest ten  → **I**

Round 4,272 to the nearest hundred  → **H**

Round 2,872 to the nearest hundred  → **W**

Round 229 to the nearest ten  → **F**

Round 107 to the nearest ten  → **C**

Round 9,388 to the nearest thousand  → **T**

Round 2,256 to the nearest thousand  → **K**

Round 434 to the nearest ten  → **D**

Round 1,284 to the nearest hundred  → **A**

Round 68 to the nearest ten  → **N**

Round 169 to the nearest ten  → **E**

Round 2,638 to the nearest thousand  → **L**

Round 46 to the nearest ten  → **S**

Round 292 to the nearest ten  → **U**

Round 126 to the nearest ten  → **R**

Scratch space:

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

The museum guards are dividing up the leftover catnip treats to keep themselves awake for the night shift. Once we divide the treats equally, the remaining clue will reveal the villain's ultimate weakness!

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:**

$56 \div 7 = \boxed{\phantom{00}}$

$18 \div 3 = \boxed{\phantom{00}}$

$88 \div 8 = \boxed{\phantom{00}}$

$24 \div 8 = \boxed{\phantom{00}}$

$4 \div 1 = \boxed{\phantom{00}}$

$28 \div 4 = \boxed{\phantom{00}}$

$18 \div 9 = \boxed{\phantom{00}}$

$45 \div 5 = \boxed{\phantom{00}}$

$108 \div 9 = \boxed{\phantom{00}}$

$60 \div 6 = \boxed{\phantom{00}}$

$12 \div 12 = \boxed{\phantom{00}}$

**Step 2 - cross out the sentence with each answer:**

1. The villain leaped over the security beams, then glided down from the ceiling in a suit.
2. The villain leaped over the security beams, then used a micro laser to cut the glass.
3. The villain purred loudly to scramble the audio sensor, then used a micro laser to cut the glass.
4. The villain crept past the sleeping guard dog, then tossed a squeaky toy to distract the guard.
5. The villain climbed up the high museum walls, then dropped a catnip smoke bomb to escape.
6. The villain purred loudly to scramble the audio sensor, then swung away on a grappling yarn hook.
7. The villain focused on the security pad lock, then dropped a catnip smoke bomb to escape.
8. The villain crept past the sleeping guard dog, then dropped a catnip smoke bomb to escape.
9. The villain leaped over the security beams, then dropped a catnip smoke bomb to escape.
10. The villain crept past the sleeping guard dog, then used a micro laser to cut the glass.
11. The villain purred loudly to scramble the audio sensor, then dropped a catnip smoke bomb to escape.
12. The villain climbed up the high museum walls, then used a micro laser to cut the glass.

# Answer Key

## The Case of the Golden Catnip Trophy

### Culprit: Socks

Wall Climbing · Catnip Smoke Bomb · Right Pawed · Tuxedo Black and White · Crinkly Foil Ball

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 7 → Clue 4 4 → Clue 5 1

#### Clue 1 (Fractions of a number): "THE SUSPECT DOES NOT USE A SQUIRREL SUIT"

$4/10$  of 65 = 26 (T) ·  $1/2$  of 44 = 22 (E) ·  $2/4$  of 58 = 29 (C) ·  $4/10$  of 35 = 14 (I) ·  $2/3$  of 15 = 10 (O) ·  $1/4$  of 44 = 11 (U) ·  $3/6$  of 36 = 18 (N) ·  $2/6$  of 102 = 34 (P) ·  $2/8$  of 84 = 21 (L) ·  $8/10$  of 45 = 36 (H) ·  $5/8$  of 8 = 5 (D) ·  $1/4$  of 64 = 16 (A) ·  $6/10$  of 15 = 9 (S) ·  $2/4$  of 66 = 33 (R) ·  $1/3$  of 117 = 39 (Q)

#### Clue 2 (Order of operations): "THE GOLDEN TROPHY HAD RIGHT PAW PRINTS ON IT"

$6 + 7 \times 9 = 69$  (T) ·  $11 \times 7 - 12 = 65$  (G) ·  $1 + 2 \times 3 = 7$  (I) ·  $11 \times 2 - 7 = 15$  (R) ·  $6 \times 4 - 4 = 20$  (Y) ·  $7 + 6 \times 8 = 55$  (P) ·  $9 \times 6 - 1 = 53$  (S) ·  $5 \times 7 - 11 = 24$  (E) ·  $16 + 7 \times 9 = 79$  (W) ·  $4 + 2 \times 3 = 10$  (H) ·  $5 \times 7 - 24 = 11$  (A) ·  $11 \times 4 - 16 = 28$  (N) ·  $7 \times 12 - 21 = 63$  (D) ·  $28 + 5 \times 3 = 43$  (O) ·  $27 + 5 \times 5 = 52$  (L)

#### Clue 3 (Multiplication facts (1-12)): "CRINKLY FOIL BALLS SCARED THE CAT AWAY"

$3 \times 3 = 9$  (C) ·  $11 \times 12 = 132$  (Y) ·  $5 \times 8 = 40$  (L) ·  $12 \times 9 = 108$  (I) ·  $8 \times 9 = 72$  (O) ·  $4 \times 8 = 32$  (T) ·  $7 \times 5 = 35$  (F) ·  $4 \times 12 = 48$  (N) ·  $8 \times 12 = 96$  (B) ·  $10 \times 6 = 60$  (A) ·  $9 \times 9 = 81$  (W) ·  $10 \times 7 = 70$  (R) ·  $12 \times 12 = 144$  (E) ·  $6 \times 11 = 66$  (H) ·  $1 \times 1 = 1$  (D) ·  $12 \times 2 = 24$  (S) ·  $11 \times 1 = 11$  (K)

#### Clue 4 (Rounding): "BLACK AND WHITE FUR WAS LEFT AT THE SCENE"

Round 936 to the nearest hundred = 900 (B) · Round 34 to the nearest ten = 30 (I) · Round 4,272 to the nearest hundred = 4300 (H) · Round 2,872 to the nearest hundred = 2900 (W) · Round 229 to the nearest ten = 230 (F) · Round 107 to the nearest ten = 110 (C) · Round 9,388 to the nearest thousand = 9000 (T) · Round 2,256 to the nearest thousand = 2000 (K) · Round 434 to the nearest ten = 430 (D) · Round 1,284 to the nearest hundred = 1300 (A) · Round 68 to the nearest ten = 70 (N) · Round 169 to the nearest ten = 170 (E) · Round 2,638 to the nearest thousand = 3000 (L) · Round 46 to the nearest ten = 50 (S) · Round 292 to the nearest ten = 290 (U) · Round 126 to the nearest ten = 130 (R)

#### Clue 5 (Division facts (1-12)): surviving statement is box 5 → Socks

$56 \div 7 = 8$  ·  $18 \div 3 = 6$  ·  $88 \div 8 = 11$  ·  $24 \div 8 = 3$  ·  $4 \div 1 = 4$  ·  $28 \div 4 = 7$  ·  $18 \div 9 = 2$  ·  $45 \div 5 = 9$  ·  $108 \div 9 = 12$  ·  $60 \div 6 = 10$  ·  $12 \div 12 = 1$