



# The Purr Palace Capers

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

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

Oh no! The Golden Fish-Bone Trophy has vanished right before the final vote! The Purr Palace Cat Show is in big trouble. Inspector Whiskers needs your help to find the sneaky catburglar before they escape!

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 catburglar is** \_\_\_\_\_

## Possible suspects

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

| NAME      | SPECIAL SKILL     | SNEAKY TOOL   | FAVORITE PAW | FUR PATTERN    | DISTRACTION   |
|-----------|-------------------|---------------|--------------|----------------|---------------|
| Lucky     | yarn tangled      | fake mouse    | left-pawed   | solid black    | squeaky toy   |
| Simba     | yarn tangled      | box trap      | left-pawed   | solid black    | crinkly paper |
| Felix     | silent purring    | catnip mist   | right-pawed  | calico patches | squeaky toy   |
| Tiger     | yarn tangled      | feather wand  | right-pawed  | calico patches | crinkly paper |
| Fluffy    | super leap        | box trap      | left-pawed   | tabby stripes  | shaken treats |
| Sylvester | silent purring    | laser pointer | left-pawed   | solid black    | shaken treats |
| Mittens   | high climbing     | laser pointer | left-pawed   | tabby stripes  | shaken treats |
| Pusheen   | carpet scratching | laser pointer | right-pawed  | calico patches | squeaky toy   |
| Cleo      | super leap        | feather wand  | left-pawed   | solid black    | crinkly paper |
| Oliver    | high climbing     | box trap      | right-pawed  | calico patches | shaken treats |
| Shadow    | silent purring    | feather wand  | right-pawed  | tabby stripes  | squeaky toy   |
| Gizmo     | yarn tangled      | feather wand  | left-pawed   | calico patches | squeaky toy   |
| Smokey    | high climbing     | fake mouse    | right-pawed  | calico patches | squeaky toy   |
| Morris    | yarn tangled      | feather wand  | right-pawed  | calico patches | squeaky toy   |
| Peanut    | yarn tangled      | box trap      | left-pawed   | calico patches | crinkly paper |
| Tom       | super leap        | fake mouse    | left-pawed   | calico patches | shaken treats |
| Socks     | yarn tangled      | laser pointer | left-pawed   | calico patches | squeaky toy   |
| Garfield  | super leap        | laser pointer | right-pawed  | tabby stripes  | squeaky toy   |
| Whiskers  | super leap        | laser pointer | left-pawed   | tabby stripes  | squeaky toy   |
| Luna      | yarn tangled      | laser pointer | left-pawed   | solid black    | squeaky toy   |
| Bella     | yarn tangled      | catnip mist   | right-pawed  | calico patches | squeaky toy   |

## CLUE 1 Rounding

Inspector Whiskers checks the digital laser radar but it only shows the distance rounded to the nearest ten

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

|          |      |     |          |      |     |      |      |          |      |      |     |      |     |      |     |          |
|----------|------|-----|----------|------|-----|------|------|----------|------|------|-----|------|-----|------|-----|----------|
| <b>T</b> |      |     |          |      |     |      |      |          |      |      |     |      |     |      |     | <b>T</b> |
| 2300     | 1300 | 430 | 290      | 4300 | 300 | 300  | 3000 | 4300     | 50   | 90   | 370 | 430  | 900 | 50   | 370 | 2300     |
|          |      |     | <b>T</b> |      |     |      |      | <b>T</b> |      |      |     |      |     |      |     |          |
| 2900     | 900  | 430 | 2300     | 1300 | 430 | 1700 | 430  | 3000     | 2300 | 1300 | 430 | 5000 | 20  | 3000 | 50  | 90       |

Round 2,256 to the nearest hundred  → **T**

Round 90 to the nearest ten  → **D**

Round 426 to the nearest ten  → **E**

Round 293 to the nearest hundred  → **L**

Round 1,340 to the nearest hundred  → **H**

Round 21 to the nearest ten  → **W**

Round 289 to the nearest ten  → **V**

Round 4,551 to the nearest thousand  → **R**

Round 2,735 to the nearest thousand  → **A**

Round 1,697 to the nearest hundred  → **F**

Round 872 to the nearest hundred  → **S**

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

Round 4,253 to the nearest hundred  → **I**

Round 51 to the nearest ten  → **N**

Round 368 to the nearest ten  → **O**

Scratch space:

**CLUE 2** **Addition**

We count the spilled tuna cans and the wet food pouches to find how many total snacks the thief knocked over

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

Diagram showing the arrangement of 20 numbered boxes in two rows. The top row has 15 boxes, and the bottom row has 5 boxes. Boxes are numbered 4460, 2848, 9735, 4029, 5512, 4029, 2004, 9735, 5320, 4460, 5512, 4029, 9735, 4029, 4460, 2848, 9735, 4322, 5550, 8055, 2848, 4460, 2004, 6623, 5866. Boxes with the number 4460 are highlighted in orange and labeled with a 'T'.

$$3012 + 1448 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{T}}$$

$$2838 + 3785 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{A}}$$

$$3841 + 5894 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{E}}$$

$$3223 + 2327 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{I}}$$

$$1826 + 3686 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{U}}$$

$$953 + 1895 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{H}}$$

$$2725 + 5330 = \boxed{\phantom{0000}} \rightarrow \boxed{\mathbf{G}}$$

$$2835 + 3031 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{W}}$$

$$2772 + 2548 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{C}}$$

$1199 + 805 = \boxed{\phantom{000}} \rightarrow \boxed{\text{P}}$

$$1746 + 2576 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{R}}$$

$$2531 + 1498 = \boxed{\phantom{0000}} \rightarrow \boxed{\mathbf{S}}$$

Scratch space:

## CLUE 3

## Subtraction

The inspector measures the scratch marks on the rug and subtracts the normal claw sizes to see the difference

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

Diagram illustrating the distribution of 10000 numbers across 10 groups of 1000. The groups are arranged in two rows. The first row contains groups 1-5, and the second row contains groups 6-10. Each group is represented by a set of 10 boxes. The first box in each group is highlighted in orange and contains the letter 'T'. The numbers below each group are: Group 1: 7148, 8171, 6431, 2243; Group 2: 1080, 3084, 1560; Group 3: 3084, 7278, 3084, 2243; Group 4: 2538, 1080, 2478, 5747; Group 5: 7148, 8171, 6431; Group 6: 2330, 7967, 8186, 6431, 3084, 8300, 2243; Group 7: 7148, 2478, 2243.

$10642 - 3494 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{T}}$

$6265 - 3727 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{F}}$

$$7514 - 4430 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{A}}$$

$$4586 - 2256 = \boxed{\phantom{000}} \rightarrow \boxed{\text{S}}$$

$10584 - 2617 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{Q}}$

9311 - 3564 =  → **M**

$$4691 - 3131 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

$8229 - 43 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{U}}$

$$2499 - 21 = \boxed{\phantom{000}} \rightarrow \boxed{0}$$

$$8790 - 1512 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{W}}$$

$$5434 - 4354 = \boxed{\phantom{000}} \rightarrow \boxed{\text{R}}$$

$$3142 - 899 = \boxed{\phantom{000}} \rightarrow \boxed{\text{Y}}$$

$$8822 - 522 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{K}}$$

$8209 - 1778 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{E}}$

$10698 - 2527 = \boxed{\phantom{0000}} \rightarrow \boxed{\text{H}}$

Scratch space:

## CLUE 4

## Multiplication facts (1-12)

The suspect ran across several rows of clean cat beds leaving footprints in equal groups on each row

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

|    |     |     |    |     |     |    |     |    |    |     |     |    |    |     |    |     |
|----|-----|-----|----|-----|-----|----|-----|----|----|-----|-----|----|----|-----|----|-----|
| T  |     |     |    |     |     |    |     |    |    |     |     |    |    |     |    |     |
| 9  | 100 | 121 | 60 | 121 | 42  | 60 | 121 | 66 | 42 | 120 | 132 | 66 | 64 |     |    |     |
|    |     | T   |    |     |     |    |     |    | T  | T   |     |    |    |     |    |     |
| 36 | 42  | 9   | 66 | 100 | 121 | 2  | 42  | 9  | 9  | 100 | 121 | 2  | 66 | 121 | 49 | 121 |

$3 \times 3 = \square \rightarrow \boxed{\text{T}}$

$7 \times 6 = \square \rightarrow \boxed{\text{A}}$

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

$11 \times 12 = \square \rightarrow \boxed{\text{I}}$

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

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

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

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

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

$10 \times 10 = \square \rightarrow \boxed{\text{H}}$

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

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

Scratch space:

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

A box of shiny collar bells was knocked over and the spilled toys were split evenly among the clean-up kittens

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:**

$36 \div 12 = \boxed{\phantom{00}}$

$96 \div 12 = \boxed{\phantom{00}}$

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

$14 \div 7 = \boxed{\phantom{00}}$

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

$77 \div 7 = \boxed{\phantom{00}}$

$16 \div 4 = \boxed{\phantom{00}}$

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

$81 \div 9 = \boxed{\phantom{00}}$

$40 \div 4 = \boxed{\phantom{00}}$

$72 \div 6 = \boxed{\phantom{00}}$

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

1. The villain scratches the judge's favorite chair, then hides inside a tiny cardboard box.
2. The villain leaps over the velvet barrier, then tosses a squeaking fake mouse.
3. The villain tangles the wool yarn, then sprays catnip mist to escape.
4. The villain tangles the wool yarn, then waves a fancy feather wand.
5. The villain climbs up the giant cat tree, then tosses a squeaking fake mouse.
6. The villain purrs so quietly nobody hears, then tosses a squeaking fake mouse.
7. The villain scratches the judge's favorite chair, then flashes a bright laser pointer.
8. The villain purrs so quietly nobody hears, then sprays catnip mist to escape.
9. The villain leaps over the velvet barrier, then sprays catnip mist to escape.
10. The villain scratches the judge's favorite chair, then sprays catnip mist to escape.
11. The villain tangles the wool yarn, then tosses a squeaking fake mouse.
12. The villain purrs so quietly nobody hears, then waves a fancy feather wand.

# Answer Key

## The Purr Palace Capers

### Culprit: Smokey

high climbing · fake mouse · right-pawed · calico patches · squeaky toy

Trail: Start 21 → Clue 1 16 → Clue 2 6 → Clue 3 5 → Clue 4 4 → Clue 5 1

### Clue 1 (Rounding): "THE VILLAIN DOES NOT USE THE FEATHER WAND"

Round 2,256 to the nearest hundred = 2300 (T) · Round 90 to the nearest ten = 90 (D) · Round 426 to the nearest ten = 430 (E) · Round 293 to the nearest hundred = 300 (L) · Round 1,340 to the nearest hundred = 1300 (H) · Round 21 to the nearest ten = 20 (W) · Round 289 to the nearest ten = 290 (V) · Round 4,551 to the nearest thousand = 5000 (R) · Round 2,735 to the nearest thousand = 3000 (A) · Round 1,697 to the nearest hundred = 1700 (F) · Round 872 to the nearest hundred = 900 (S) · Round 2,927 to the nearest hundred = 2900 (U) · Round 4,253 to the nearest hundred = 4300 (I) · Round 51 to the nearest ten = 50 (N) · Round 368 to the nearest ten = 370 (O)

### Clue 2 (Addition): "THE SUSPECT USES THE RIGHT PAW"

$3012 + 1448 = 4460$  (T) ·  $2838 + 3785 = 6623$  (A) ·  $3841 + 5894 = 9735$  (E) ·  $3223 + 2327 = 5550$  (I) ·  $1826 + 3686 = 5512$  (U) ·  $953 + 1895 = 2848$  (H) ·  $2725 + 5330 = 8055$  (G) ·  $2835 + 3031 = 5866$  (W) ·  $2772 + 2548 = 5320$  (C) ·  $1199 + 805 = 2004$  (P) ·  $1746 + 2576 = 4322$  (R) ·  $2531 + 1498 = 4029$  (S)

### Clue 3 (Subtraction): "THEY RAN AWAY FROM THE SQUEAKY TOY"

$10642 - 3494 = 7148$  (T) ·  $6265 - 3727 = 2538$  (F) ·  $7514 - 4430 = 3084$  (A) ·  $4586 - 2256 = 2330$  (S) ·  $10584 - 2617 = 7967$  (Q) ·  $9311 - 3564 = 5747$  (M) ·  $4691 - 3131 = 1560$  (N) ·  $8229 - 43 = 8186$  (U) ·  $2499 - 21 = 2478$  (O) ·  $8790 - 1512 = 7278$  (W) ·  $5434 - 4354 = 1080$  (R) ·  $3142 - 899 = 2243$  (Y) ·  $8822 - 522 = 8300$  (K) ·  $8209 - 1778 = 6431$  (E) ·  $10698 - 2527 = 8171$  (H)

### Clue 4 (Multiplication facts (1-12)): "THERE ARE CALICO PATCHES AT THE SCENE"

$3 \times 3 = 9$  (T) ·  $7 \times 6 = 42$  (A) ·  $11 \times 6 = 66$  (C) ·  $11 \times 12 = 132$  (I) ·  $1 \times 2 = 2$  (S) ·  $10 \times 6 = 60$  (R) ·  $12 \times 3 = 36$  (P) ·  $12 \times 10 = 120$  (L) ·  $11 \times 11 = 121$  (E) ·  $10 \times 10 = 100$  (H) ·  $7 \times 7 = 49$  (N) ·  $8 \times 8 = 64$  (O)

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

$36 \div 12 = 3$  ·  $96 \div 12 = 8$  ·  $28 \div 4 = 7$  ·  $14 \div 7 = 2$  ·  $8 \div 8 = 1$  ·  $77 \div 7 = 11$  ·  $16 \div 4 = 4$  ·  $18 \div 3 = 6$  ·  $81 \div 9 = 9$  ·  $40 \div 4 = 10$  ·  $72 \div 6 = 12$