



# The Great Milk Mystery

Grade 2 math · Place value, Word problems, Addition, Subtraction, Missing addends · Reading level grades 1-2

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

The golden milk is gone from the Royal Bowl! Chief Chef Barnaby is very sad. We need to find the sneaky cat who drank it all.

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 Sneaky Stray is** \_\_\_\_\_

## Possible suspects

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

| NAME      | MAIN SKILL  | POCKET TOY  | ACTIVE PAW  | FUR COLOR  | DISTRACTION  |
|-----------|-------------|-------------|-------------|------------|--------------|
| Luna      | super purr  | wool yarn   | left pawed  | black fur  | feather wand |
| Fluffy    | fast climb  | toy mouse   | left pawed  | black fur  | feather wand |
| Oliver    | super purr  | wool yarn   | right pawed | black fur  | feather wand |
| Smokey    | high jump   | catnip toy  | left pawed  | orange fur | fish treat   |
| Tom       | night sight | laser light | right pawed | white fur  | warm milk    |
| Boots     | high jump   | shiny bell  | right pawed | white fur  | fish treat   |
| Ziggy     | high jump   | laser light | left pawed  | black fur  | fish treat   |
| Simba     | fast climb  | wool yarn   | right pawed | white fur  | warm milk    |
| Milo      | fast climb  | toy mouse   | right pawed | white fur  | warm milk    |
| Gizmo     | high jump   | wool yarn   | left pawed  | orange fur | feather wand |
| Chloe     | high jump   | catnip toy  | left pawed  | orange fur | feather wand |
| Whiskers  | silent step | laser light | right pawed | black fur  | warm milk    |
| Max       | high jump   | laser light | left pawed  | orange fur | feather wand |
| Garfield  | super purr  | wool yarn   | right pawed | black fur  | fish treat   |
| Tiger     | super purr  | catnip toy  | left pawed  | black fur  | feather wand |
| Leo       | silent step | shiny bell  | left pawed  | black fur  | feather wand |
| Shadow    | super purr  | shiny bell  | left pawed  | orange fur | feather wand |
| Bella     | silent step | shiny bell  | right pawed | white fur  | feather wand |
| Socks     | high jump   | wool yarn   | right pawed | white fur  | fish treat   |
| Felix     | fast climb  | wool yarn   | left pawed  | black fur  | feather wand |
| Sylvester | silent step | shiny bell  | right pawed | orange fur | warm milk    |

**CLUE 1** Place value

Detective Kitten counts the yarn balls in the yard to find the first clue.

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

91 75 93 69 32 93 51 49 41 16 51 91 99 33 93 69 32 33 91

75 51 29 93 51 69 75 15 32 41 11 93 26 26

What number has 9 tens and 1 one?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box has a thick border and contains the capital letter 'T' in the center.

What number has 7 tens and 5 ones?

A diagram illustrating a transition. 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 a rounded rectangle with a thick border and contains the letter 'H' in the center.

What number has 1 ten and 1 one?

A diagram showing a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. The box on the right contains the letter 'B'.

What number has 6 tens and 9 ones?

A diagram illustrating a transition. 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 a rounded rectangle with a thick border and contains the letter 'S' in a bold, sans-serif font.

What number has 2 tens and 9 ones?

What number has 1 ten and 6 ones?



What number has 9 tens and 3 ones?

What number has 2 tens and 6 ones?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points to the right, where a similar box is shown, but it contains the letter 'L'.

What number has 4 tens and 1 one?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box contains the letter 'Y' in a bold, sans-serif font.

What number has 9 tens and 9 ones?

A diagram showing a box with a question mark pointing to a box with the letter D.

What number has 1 ten and 5 ones?

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 has a thick border and contains the number '1' in the center.

What number has 4 tens and 9 ones?

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

What number has 3 tens and 3 ones?

A diagram showing a box with a right arrow pointing to a box containing the number 0.

What number has 5 tens and 1 one?

A diagram showing a transition from an empty box to a box containing the letter A. The first box is empty, followed by a right-pointing arrow, and then a box containing the letter 'A'.

What number has 3 tens and 2 ones?

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

Scratch space:

## CLUE 2

## Word problems

A small box has tens and ones blocks that show where the cat ran.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was 

|    |    |    |    |    |   |    |    |   |
|----|----|----|----|----|---|----|----|---|
| L  |    |    |    |    |   |    |    | D |
| 31 | 33 | 14 | 24 | 10 | 6 | 35 | 33 |   |

.

There were 34 feather wands. 3 were used up. How many feather wands are left?  → **L**

Detective Kitten lined up 3 rows of 11 feather wands. How many feather wands in all?  → **E**

Detective Kitten found 21 yarn balls yesterday and 3 more today. How many yarn balls in all?  → **T**

Detective Kitten lined up 5 rows of 7 toy mice. How many toy mice in all?  → **W**

Detective Kitten found 7 fish treats yesterday and 3 more today. How many fish treats in all?  → **P**

Detective Kitten lined up 2 rows of 3 yarn balls. How many yarn balls in all?  → **A**

Detective Kitten lined up 2 rows of 7 feather wands. How many feather wands in all?  → **F**

Scratch space:

## CLUE 3

## Addition

We add up all the paw prints in the mud to get a clue.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| T  |    |    |    |    |    |    |    |    |    | T  |    |    |    |    |    |  |  |
| 66 | 60 | 57 | 92 | 61 | 35 | 80 | 80 | 70 | 66 | 51 | 31 | 36 | 51 | 58 | 83 |  |  |

  

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
|    |    |    | T  |    |    |    |
| 36 | 57 | 83 | 66 | 60 | 57 | 58 |

$28 + 38 = \square \rightarrow \boxed{\text{T}}$

$14 + 22 = \square \rightarrow \boxed{\text{F}}$

$14 + 17 = \square \rightarrow \boxed{\text{P}}$

$24 + 27 = \square \rightarrow \boxed{\text{O}}$

$29 + 63 = \square \rightarrow \boxed{\text{Y}}$

$40 + 40 = \square \rightarrow \boxed{\text{L}}$

$39 + 18 = \square \rightarrow \boxed{\text{E}}$

$22 + 36 = \square \rightarrow \boxed{\text{R}}$

$47 + 23 = \square \rightarrow \boxed{\text{S}}$

$33 + 27 = \square \rightarrow \boxed{\text{H}}$

$37 + 24 = \square \rightarrow \boxed{\text{W}}$

$17 + 18 = \square \rightarrow \boxed{\text{I}}$

$32 + 51 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

## CLUE 4

## Subtraction

We take away the eaten fish treats to see what is left.

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

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| W  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 72 | 78 | 40 | 56 | 45 | 85 | 50 | 68 | 89 | 73 | 39 | 38 | 40 | 45 | 27 | 56 | 85 |

  

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
|    |    |    |    |    |    |    |    |
| 66 | 84 | 78 | 39 | 84 | 73 | 29 | 27 |

$106 - 34 = \square \rightarrow \boxed{\text{W}}$

$114 - 30 = \square \rightarrow \boxed{\text{H}}$

$55 - 17 = \square \rightarrow \boxed{\text{K}}$

$62 - 17 = \square \rightarrow \boxed{\text{U}}$

$115 - 30 = \square \rightarrow \boxed{\text{N}}$

$60 - 33 = \square \rightarrow \boxed{\text{R}}$

$82 - 32 = \square \rightarrow \boxed{\text{D}}$

$84 - 18 = \square \rightarrow \boxed{\text{T}}$

$117 - 28 = \square \rightarrow \boxed{\text{L}}$

$81 - 3 = \square \rightarrow \boxed{\text{E}}$

$45 - 5 = \square \rightarrow \boxed{\text{F}}$

$53 - 14 = \square \rightarrow \boxed{\text{C}}$

$99 - 26 = \square \rightarrow \boxed{\text{A}}$

$80 - 12 = \square \rightarrow \boxed{\text{B}}$

$36 - 7 = \square \rightarrow \boxed{\text{I}}$

$58 - 2 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

**CLUE 5****Missing addends - the last clue**

Some toy mice are missing from the box and we must find the secret number.

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:**

$1 + \underline{\quad} = 4$

$10 + \underline{\quad} = 15$

$5 + \underline{\quad} = 9$

$10 + \underline{\quad} = 16$

$10 + \underline{\quad} = 17$

$10 + \underline{\quad} = 18$

$3 + \underline{\quad} = 5$

$4 + \underline{\quad} = 14$

$8 + \underline{\quad} = 17$

$1 + \underline{\quad} = 13$

$1 + \underline{\quad} = 12$

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

1. The villain climbs up the giant scratching post, then squeaks a little toy mouse.
2. The villain sneaks through the dark yard, then drops a ball of wool yarn.
3. The villain purrs very loudly to trick the guards, then drops a ball of wool yarn.
4. The villain climbs up the giant scratching post, then drops a ball of wool yarn.
5. The villain purrs very loudly to trick the guards, then tosses a soft catnip toy.
6. The villain sneaks through the dark yard, then tosses a soft catnip toy.
7. The villain climbs up the giant scratching post, then rings a tiny shiny bell.
8. The villain sneaks through the dark yard, then shines a bright laser light.
9. The villain jumps over the tall fence, then rings a tiny shiny bell.
10. The villain sneaks through the dark yard, then rings a tiny shiny bell.
11. The villain jumps over the tall fence, then drops a ball of wool yarn.
12. The villain climbs up the giant scratching post, then shines a bright laser light.

# Answer Key

## The Great Milk Mystery

### Culprit: Fluffy

fast climb · toy mouse · left pawed · black fur · feather wand

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 7 → Clue 4 4 → Clue 5 1

### Clue 1 (Place value): "THE SNEAKY CAT DOES NOT HAVE A SHINY BELL"

What number has 9 tens and 1 one? = 91 (T) · What number has 7 tens and 5 ones? = 75 (H) · What number has 1 ten and 1 one? = 11 (B) · What number has 6 tens and 9 ones? = 69 (S) · What number has 2 tens and 9 ones? = 29 (V) · What number has 1 ten and 6 ones? = 16 (C) · What number has 9 tens and 3 ones? = 93 (E) · What number has 2 tens and 6 ones? = 26 (L) · What number has 4 tens and 1 one? = 41 (Y) · What number has 9 tens and 9 ones? = 99 (D) · What number has 1 ten and 5 ones? = 15 (I) · What number has 4 tens and 9 ones? = 49 (K) · What number has 3 tens and 3 ones? = 33 (O) · What number has 5 tens and 1 one? = 51 (A) · What number has 3 tens and 2 ones? = 32 (N)

### Clue 2 (Word problems): "LEFT PAWED"

There were 34 feather wands. 3 were used up. How many feather wands are left? = 31 (L) · Detective Kitten lined up 3 rows of 11 feather wands. How many feather wands in all? = 33 (E) · Detective Kitten found 21 yarn balls yesterday and 3 more today. How many yarn balls in all? = 24 (T) · Detective Kitten lined up 5 rows of 7 toy mice. How many toy mice in all? = 35 (W) · Detective Kitten found 7 fish treats yesterday and 3 more today. How many fish treats in all? = 10 (P) · Detective Kitten lined up 2 rows of 3 yarn balls. How many yarn balls in all? = 6 (A) · Detective Kitten lined up 2 rows of 7 feather wands. How many feather wands in all? = 14 (F)

### Clue 3 (Addition): "THEY WILL STOP FOR A FEATHER"

$28 + 38 = 66$  (T) ·  $14 + 22 = 36$  (F) ·  $14 + 17 = 31$  (P) ·  $24 + 27 = 51$  (O) ·  $29 + 63 = 92$  (Y) ·  $40 + 40 = 80$  (L) ·  $39 + 18 = 57$  (E) ·  $22 + 36 = 58$  (R) ·  $47 + 23 = 70$  (S) ·  $33 + 27 = 60$  (H) ·  $37 + 24 = 61$  (W) ·  $17 + 18 = 35$  (I) ·  $32 + 51 = 83$  (A)

### Clue 4 (Subtraction): "WE FOUND BLACK FUR ON THE CHAIR"

$106 - 34 = 72$  (W) ·  $114 - 30 = 84$  (H) ·  $55 - 17 = 38$  (K) ·  $62 - 17 = 45$  (U) ·  $115 - 30 = 85$  (N) ·  $60 - 33 = 27$  (R) ·  $82 - 32 = 50$  (D) ·  $84 - 18 = 66$  (T) ·  $117 - 28 = 89$  (L) ·  $81 - 3 = 78$  (E) ·  $45 - 5 = 40$  (F) ·  $53 - 14 = 39$  (C) ·  $99 - 26 = 73$  (A) ·  $80 - 12 = 68$  (B) ·  $36 - 7 = 29$  (I) ·  $58 - 2 = 56$  (O)

### Clue 5 (Missing addends): surviving statement is box 1 → Fluffy

$1 + \underline{\quad} = 4 = 3$  ·  $10 + \underline{\quad} = 15 = 5$  ·  $5 + \underline{\quad} = 9 = 4$  ·  $10 + \underline{\quad} = 16 = 6$  ·  $10 + \underline{\quad} = 17 = 7$  ·  $10 + \underline{\quad} = 18 = 8$  ·  $3 + \underline{\quad} = 5 = 2$  ·  $4 + \underline{\quad} = 14 = 10$  ·  $8 + \underline{\quad} = 17 = 9$  ·  $1 + \underline{\quad} = 13 = 12$  ·  $1 + \underline{\quad} = 12 = 11$