



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.

T											T							T
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?

 → **T**

What number has 7 tens and 5 ones?

 → **H**

What number has 1 ten and 1 one?

 → **B**

What number has 6 tens and 9 ones?

 → **S**

What number has 2 tens and 9 ones?

 → **V**

What number has 1 ten and 6 ones?

 → **C**

What number has 9 tens and 3 ones?

 → **E**

What number has 2 tens and 6 ones?

 → **L**

What number has 4 tens and 1 one?

 → **Y**

What number has 9 tens and 9 ones?

 → **D**

What number has 1 ten and 5 ones?

 → **I**

What number has 4 tens and 9 ones?

 → **K**

What number has 3 tens and 3 ones?

 → **O**

What number has 5 tens and 1 one?

 → **A**

What number has 3 tens and 2 ones?

 → **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?

Answer: → **L**

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

Answer: → **E**

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

Answer: → **T**

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

Answer: → **W**

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

Answer: → **P**

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

Answer: → **A**

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

Answer: → **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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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