



The Case of the Missing Golden Cupcake

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

Detective: _____ Date: _____

Oh no! The giant Golden Cupcake is gone from the display window. It had pink frosting and shiny sprinkles. Head Baker Ben is very sad. We must find the Cupcake Sneak before the big bake sale starts!

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 Cupcake Sneak is _____

Possible suspects

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

NAME	BAKING TRICK	FROSTING TRICK	CHEWING STYLE	CHEF HAT STRIPES	SNEEZE TRIGGER
Guy	high jump	lemon drizzle	right side chewer	blue hat stripes	black pepper
Gordon	high jump	strawberry splash	left side chewer	green hat stripes	cinnamon dust
Roy	silent steps	grape fizz	right side chewer	green hat stripes	black pepper
Cat	box hide	lemon drizzle	right side chewer	green hat stripes	cinnamon dust
Emeril	wall climb	lemon drizzle	right side chewer	red hat stripes	ginger powder
Alice	fast crawl	mint swirl	right side chewer	green hat stripes	ginger powder
Carla	high jump	lemon drizzle	left side chewer	red hat stripes	ginger powder
Duff	wall climb	chocolate drop	right side chewer	red hat stripes	black pepper
Alton	wall climb	mint swirl	right side chewer	blue hat stripes	cinnamon dust
Bobby	wall climb	chocolate drop	left side chewer	red hat stripes	ginger powder
Sara	fast crawl	mint swirl	left side chewer	red hat stripes	cinnamon dust
Christina	high jump	strawberry splash	left side chewer	red hat stripes	ginger powder
Noel	wall climb	mint swirl	left side chewer	red hat stripes	ginger powder
Joy	wall climb	mint swirl	right side chewer	red hat stripes	cinnamon dust
Sunny	silent steps	strawberry splash	left side chewer	red hat stripes	black pepper
Jacques	wall climb	lemon drizzle	left side chewer	red hat stripes	black pepper
Matt	wall climb	chocolate drop	left side chewer	red hat stripes	black pepper
Paul	silent steps	strawberry splash	left side chewer	blue hat stripes	ginger powder
Prue	high jump	chocolate drop	right side chewer	red hat stripes	ginger powder
Marcus	box hide	strawberry splash	left side chewer	red hat stripes	ginger powder
Martha	wall climb	grape fizz	right side chewer	blue hat stripes	cinnamon dust

CLUE 1 Addition

We count the spilled sprinkles on the floor. Let us add the pink ones and blue ones together to find our first hint.

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

T																	
47	68	36	45	91	36	83	25	23	46	36	45	91	46	47	44	45	36

90	36	89	46	91	23	97	35	58	58	90	36

$22 + 25 = \square \rightarrow \text{T}$

$11 + 25 = \square \rightarrow \text{E}$

$61 + 36 = \square \rightarrow \text{R}$

$49 + 40 = \square \rightarrow \text{M}$

$29 + 16 = \square \rightarrow \text{S}$

$16 + 30 = \square \rightarrow \text{O}$

$9 + 16 = \square \rightarrow \text{K}$

$31 + 60 = \square \rightarrow \text{N}$

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

$19 + 16 = \square \rightarrow \text{I}$

$62 + 28 = \square \rightarrow \text{L}$

$31 + 13 = \square \rightarrow \text{U}$

$36 + 32 = \square \rightarrow \text{H}$

$20 + 38 = \square \rightarrow \text{Z}$

$13 + 10 = \square \rightarrow \text{D}$

Scratch space:

CLUE 2

Subtraction

We find a tray of mini tarts. Some are eaten! Subtract the eaten tarts from the full tray to see what is left.

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

T									T									
82	23	85	51	49	84	83	33	82	23	58	85	57	51	23	85	73	62	

		T						T				
37	84	82	23	85	65	85	57	82	62	58	83	85

$102 - 20 = \square \rightarrow \boxed{\text{T}}$

$105 - 32 = \square \rightarrow \boxed{\text{W}}$

$65 - 8 = \square \rightarrow \boxed{\text{F}}$

$56 - 23 = \square \rightarrow \boxed{\text{Y}}$

$112 - 27 = \square \rightarrow \boxed{\text{E}}$

$39 - 2 = \square \rightarrow \boxed{\text{O}}$

$91 - 29 = \square \rightarrow \boxed{\text{S}}$

$96 - 12 = \square \rightarrow \boxed{\text{N}}$

$76 - 27 = \square \rightarrow \boxed{\text{A}}$

$86 - 21 = \square \rightarrow \boxed{\text{L}}$

$62 - 11 = \square \rightarrow \boxed{\text{C}}$

$27 - 4 = \square \rightarrow \boxed{\text{H}}$

$65 - 7 = \square \rightarrow \boxed{\text{I}}$

$109 - 26 = \square \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 3

Word problems

Baker Ben tells us a story about some flour bags. Solve his word puzzle to get closer to the thief.

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

Someone scared the villain off with G G W D .

24
22
30
24
18
39
17
14
18
39

Baker lined up 3 rows of 8 cherries. How many cherries in all?

Answer: → G

Baker lined up 3 rows of 6 cookie trays. How many cookie trays in all?

Answer: → E

Baker found 4 sprinkles yesterday and 35 more today. How many sprinkles in all?

Answer: → R

Baker lined up 3 rows of 10 frosting bags. How many frosting bags in all?

Answer: → N

There were 22 cookie trays. 5 were used up. How many cookie trays are left?

Answer: → P

Baker lined up 2 rows of 11 frosting bags. How many frosting bags in all?

Answer: → I

Baker lined up 7 rows of 2 cookie trays. How many cookie trays in all?

Answer: → O

Scratch space:

CLUE 4 Place value

A locked box is under the counter. We must read the tens and ones blocks on the lock to open it.

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

R								R										R	
42	54	92	18	31	13	70	13	42	43	64	54	70	39	54	42	54			
70	54	54	35	21	29	13	18	54	92	97	97	42							

What number has 4 tens and 2 ones? → **R**

What number has 2 tens and 9 ones? → **Y**

What number has 3 tens and 5 ones? → **N**

What number has 1 ten and 3 ones? → **T**

What number has 3 tens and 9 ones? → **W**

What number has 2 tens and 1 one? → **B**

What number has 9 tens and 7 ones? → **O**

What number has 1 ten and 8 ones? → **H**

What number has 4 tens and 3 ones? → **I**

What number has 5 tens and 4 ones? → **E**

What number has 9 tens and 2 ones? → **D**

What number has 7 tens and 0 ones? → **S**

What number has 6 tens and 4 ones? → **P**

What number has 3 tens and 1 one? → **A**

Scratch space:

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

There should be ten cherries on the counter, but some are missing. Find the missing number to get the final clue.

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:

$1 + \underline{\quad} = 8$

$4 + \underline{\quad} = 15$

$7 + \underline{\quad} = 16$

$10 + \underline{\quad} = 11$

$8 + \underline{\quad} = 14$

$5 + \underline{\quad} = 7$

$6 + \underline{\quad} = 18$

$9 + \underline{\quad} = 12$

$6 + \underline{\quad} = 11$

$3 + \underline{\quad} = 13$

$3 + \underline{\quad} = 11$

Step 2 - cross out the sentence with each answer:

1. The villain does a quick box hide behind the flour, then makes a mint swirl on the glass.
2. The villain does a fast wall climb up the shelves, then leaves a lemon drizzle on the mat.
3. The villain does a fast crawl under the table, then makes a mint swirl on the glass.
4. The villain does a quick box hide behind the flour, then leaves a strawberry splash on the floor.
5. The villain takes silent steps across the kitchen, then makes a grape fizz cloud in the air.
6. The villain makes a high jump over the counter, then makes a grape fizz cloud in the air.
7. The villain makes a high jump over the counter, then leaves a strawberry splash on the floor.
8. The villain does a quick box hide behind the flour, then leaves a lemon drizzle on the mat.
9. The villain does a fast wall climb up the shelves, then drops a chocolate drop near the door.
10. The villain takes silent steps across the kitchen, then makes a mint swirl on the glass.
11. The villain does a fast wall climb up the shelves, then makes a mint swirl on the glass.
12. The villain does a quick box hide behind the flour, then drops a chocolate drop near the door.

Answer Key

The Case of the Missing Golden Cupcake

Culprit: Marcus

box hide · strawberry splash · left side chewer · red hat stripes · ginger powder

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

Clue 1 (Addition): "THE SNEAK DOES NOT USE LEMON DRIZZLE"

$22 + 25 = 47$ (T) · $11 + 25 = 36$ (E) · $61 + 36 = 97$ (R) · $49 + 40 = 89$ (M) · $29 + 16 = 45$ (S) · $16 + 30 = 46$ (O) · $9 + 16 = 25$ (K) · $31 + 60 = 91$ (N) · $51 + 32 = 83$ (A) · $19 + 16 = 35$ (I) · $62 + 28 = 90$ (L) · $31 + 13 = 44$ (U) · $36 + 32 = 68$ (H) · $20 + 38 = 58$ (Z) · $13 + 10 = 23$ (D)

Clue 2 (Subtraction): "THE CANDY THIEF CHEWS ON THE LEFT SIDE"

$102 - 20 = 82$ (T) · $105 - 32 = 73$ (W) · $65 - 8 = 57$ (F) · $56 - 23 = 33$ (Y) · $112 - 27 = 85$ (E) · $39 - 2 = 37$ (O) · $91 - 29 = 62$ (S) · $96 - 12 = 84$ (N) · $76 - 27 = 49$ (A) · $86 - 21 = 65$ (L) · $62 - 11 = 51$ (C) · $27 - 4 = 23$ (H) · $65 - 7 = 58$ (I) · $109 - 26 = 83$ (D)

Clue 3 (Word problems): "GINGER POWDER"

Baker lined up 3 rows of 8 cherries. How many cherries in all? = 24 (G) · Baker lined up 3 rows of 6 cookie trays. How many cookie trays in all? = 18 (E) · Baker found 4 sprinkles yesterday and 35 more today. How many sprinkles in all? = 39 (R) · Baker lined up 3 rows of 10 frosting bags. How many frosting bags in all? = 30 (N) · There were 22 cookie trays. 5 were used up. How many cookie trays are left? = 17 (P) · Baker lined up 2 rows of 11 frosting bags. How many frosting bags in all? = 22 (I) · Baker lined up 7 rows of 2 cookie trays. How many cookie trays in all? = 14 (O)

Clue 4 (Place value): "RED HAT STRIPES WERE SEEN BY THE DOOR"

What number has 4 tens and 2 ones? = 42 (R) · What number has 2 tens and 9 ones? = 29 (Y) · What number has 3 tens and 5 ones? = 35 (N) · What number has 1 ten and 3 ones? = 13 (T) · What number has 3 tens and 9 ones? = 39 (W) · What number has 2 tens and 1 one? = 21 (B) · What number has 9 tens and 7 ones? = 97 (O) · What number has 1 ten and 8 ones? = 18 (H) · What number has 4 tens and 3 ones? = 43 (I) · What number has 5 tens and 4 ones? = 54 (E) · What number has 9 tens and 2 ones? = 92 (D) · What number has 7 tens and 0 ones? = 70 (S) · What number has 6 tens and 4 ones? = 64 (P) · What number has 3 tens and 1 one? = 31 (A)

Clue 5 (Missing addends): surviving statement is box 4 → Marcus

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