



The Great Pastry Palace Heist

Grade 6 math · Addition, Word problems, Percentages, Exponents, Division · Reading level grades 7-9

Detective: _____ Date: _____

The legendary Golden Whisk has been stolen right before the final bake-off! The Recipe Thief left behind a trail of culinary crumbs and bizarre puzzles. As the lead food detective, you must crack the codes left in the kitchen ledger to catch the culprit among the visiting chefs.

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 Recipe Thief is _____

Possible suspects

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

NAME	SIGNATURE DISH	SECRET INGREDIENT	DOMINANT HAND	CHEF HAT STYLE	ALLERGY TRIGGER
Chef Marcus	Truffle Souffle	Lavender Extract	Right Handed	Striped Bandana	Peanut Dust
Chef Ming	Saffron Macaron	Vanilla Bean	Right Handed	Tall Toque	Dairy Vapor
Chef Kristen	Smoked Gelato	Vanilla Bean	Left Handed	Beret Cap	Peanut Dust
Chef Julia	Saffron Macaron	Vanilla Bean	Right Handed	Striped Bandana	Dairy Vapor
Chef Alice	Saffron Macaron	Vanilla Bean	Right Handed	Beret Cap	Peanut Dust
Chef Carla	Matcha Lava Cake	Vanilla Bean	Left Handed	Tall Toque	Peanut Dust
Chef Cat	Saffron Macaron	Lavender Extract	Right Handed	Beret Cap	Peanut Dust
Chef Padma	Matcha Lava Cake	Sea Salt	Right Handed	Tall Toque	Gluten Mist
Chef Ina	Spun Sugar Cage	Ghost Pepper	Left Handed	Beret Cap	Peanut Dust
Chef Roy	Truffle Souffle	Sea Salt	Left Handed	Striped Bandana	Peanut Dust
Chef Curtis	Truffle Souffle	Vanilla Bean	Left Handed	Tall Toque	Dairy Vapor
Chef Jacques	Saffron Macaron	Sea Salt	Right Handed	Striped Bandana	Peanut Dust
Chef Guy	Matcha Lava Cake	Vanilla Bean	Right Handed	Beret Cap	Peanut Dust
Chef Wolfgang	Smoked Gelato	Lavender Extract	Left Handed	Beret Cap	Dairy Vapor
Chef Jamie	Smoked Gelato	Ghost Pepper	Right Handed	Beret Cap	Peanut Dust
Chef Aaron	Saffron Macaron	Sea Salt	Right Handed	Beret Cap	Peanut Dust
Chef Gordon	Matcha Lava Cake	Vanilla Bean	Right Handed	Beret Cap	Dairy Vapor
Chef Masaharu	Saffron Macaron	Gold Flakes	Right Handed	Striped Bandana	Peanut Dust
Chef Duff	Spun Sugar Cage	Vanilla Bean	Right Handed	Striped Bandana	Dairy Vapor
Chef Giada	Saffron Macaron	Vanilla Bean	Left Handed	Tall Toque	Dairy Vapor
Chef Bobby	Spun Sugar Cage	Sea Salt	Right Handed	Tall Toque	Dairy Vapor

CLUE 1 Addition

To decode the first clue, we must solve the inventory word problems left by the kitchen staff to see which secret ingredients are fully accounted for.

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

Diagram showing the arrangement of 27 numbered boxes in two rows. The top row contains 18 boxes, and the bottom row contains 9 boxes. The boxes are numbered 1 to 27. Boxes 1, 10, and 27 are highlighted in orange and labeled 'T'.

$$3983 + 2144 = \boxed{} \rightarrow \boxed{\text{T}}$$

$3212 + 3540 = \boxed{} \rightarrow \boxed{\text{D}}$

$1348 + 2793 = \boxed{} \rightarrow \boxed{\text{L}}$

$$2602 + 1398 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$5774 + 3057 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$1575 + 1658 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$2133 + 1006 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$3017 + 4253 = \boxed{} \rightarrow \boxed{0}$$

$1448 + 2745 = \boxed{} \rightarrow \mathbf{C}$

$$3582 + 3084 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$2551 + 4388 = \boxed{} \rightarrow \boxed{\text{H}}$$

$4848 + 2859 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$$3606 + 5211 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$3241 + 1484 = \boxed{} \rightarrow \boxed{\text{N}}$$

Scratch space:

CLUE 2

Word problems

The pastry assistants tallied up the total number of dropped copper pots, and adding up these kitchen mishaps reveals a clue about the suspect's dominant hand.

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

A witness saw the villain was R D E D .

17 28 117 67 99 67 59 62

There were 36 macarons. 19 were used up. How many macarons are left?

Answer: → R

There were 83 cupcakes. 24 were used up. How many cupcakes are left?

Answer: → A

There were 69 souffles. 7 were used up. How many souffles are left?

Answer: → N

Sous Chef found 21 cupcakes yesterday and 7 more today. How many cupcakes in all?

Answer: → I

There were 69 souffles. 2 were used up. How many souffles are left?

Answer: → H

Sous Chef found 30 souffles yesterday and 87 more today. How many souffles in all?

Answer: → G

Sous Chef lined up 9 rows of 11 croissants. How many croissants in all?

Answer: → T

Scratch space:

CLUE 3

Percentages

We found a nutritional label detailing the percentage of dairy in the spilled sauces, which helps narrow down the culprit's specific culinary weakness.

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

S											S					
2	17	24	24	34	3	17	7	4	3	45	2	15	30	30	31	20

												S	
17	24	33	20	27	24	33	17	31	45	37	31	2	45

$25\% \text{ of } 8 = \square \rightarrow \boxed{\text{S}}$

$5\% \text{ of } 600 = \square \rightarrow \boxed{\text{C}}$

$40\% \text{ of } 85 = \square \rightarrow \boxed{\text{Z}}$

$20\% \text{ of } 185 = \square \rightarrow \boxed{\text{D}}$

$20\% \text{ of } 100 = \square \rightarrow \boxed{\text{R}}$

$50\% \text{ of } 34 = \square \rightarrow \boxed{\text{N}}$

$75\% \text{ of } 32 = \square \rightarrow \boxed{\text{E}}$

$10\% \text{ of } 30 = \square \rightarrow \boxed{\text{I}}$

$25\% \text{ of } 60 = \square \rightarrow \boxed{\text{O}}$

$50\% \text{ of } 8 = \square \rightarrow \boxed{\text{F}}$

$10\% \text{ of } 330 = \square \rightarrow \boxed{\text{A}}$

$25\% \text{ of } 28 = \square \rightarrow \boxed{\text{G}}$

$5\% \text{ of } 900 = \square \rightarrow \boxed{\text{T}}$

$75\% \text{ of } 36 = \square \rightarrow \boxed{\text{P}}$

$10\% \text{ of } 310 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 4 Exponents

The yeast cultures in the dough are multiplying exponentially; calculating their rapid growth rate highlights the fibers left from the thief's headwear.

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

A			A									A							
343	100	225	343	324	4	100	36	400	36	25	324	343	144	64	169	100	36	400	

	A												
289	343	196	225	36	64	25	100	36	49	169	9	121	

$7^3 = \square \rightarrow$ A	$7^2 = \square \rightarrow$ H	$8^2 = \square \rightarrow$ F	$5^2 = \square \rightarrow$ T
$11^2 = \square \rightarrow$ D	$14^2 = \square \rightarrow$ S	$18^2 = \square \rightarrow$ C	$17^2 = \square \rightarrow$ W
$2^2 = \square \rightarrow$ K	$15^2 = \square \rightarrow$ L	$13^2 = \square \rightarrow$ I	$3^2 = \square \rightarrow$ N
$20^2 = \square \rightarrow$ R	$10^2 = \square \rightarrow$ B	$6^2 = \square \rightarrow$ E	$12^2 = \square \rightarrow$ P

Scratch space:

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

By dividing the remaining chocolate truffles equally among the frantic judges, we can calculate the final pieces of evidence left at the crime scene.

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:

$144 \div 12 = \boxed{}$

$32 \div 4 = \boxed{}$

$28 \div 7 = \boxed{}$

$50 \div 5 = \boxed{}$

$10 \div 10 = \boxed{}$

$54 \div 6 = \boxed{}$

$54 \div 9 = \boxed{}$

$14 \div 2 = \boxed{}$

$35 \div 7 = \boxed{}$

$10 \div 5 = \boxed{}$

$55 \div 5 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain tampers with the freezer settings, then drops a trail of fine sea salt.
2. The villain sabotages the competitor ovens, then drops a trail of fine sea salt.
3. The villain hides the golden mixing bowls, then scrapes fresh vanilla bean onto the counter.
4. The villain scrambles the recipe cards, then leaves a trace of fiery ghost pepper.
5. The villain scrambles the recipe cards, then scatters glittering gold flakes over the mess.
6. The villain hides the golden mixing bowls, then scatters glittering gold flakes over the mess.
7. The villain sabotages the competitor ovens, then scatters glittering gold flakes over the mess.
8. The villain tampers with the freezer settings, then scrapes fresh vanilla bean onto the counter.
9. The villain swaps the sugar with salt, then leaves a trace of fiery ghost pepper.
10. The villain swaps the sugar with salt, then scrapes fresh vanilla bean onto the counter.
11. The villain tampers with the freezer settings, then leaves a trace of fiery ghost pepper.
12. The villain tampers with the freezer settings, then scents the air with strong lavender.

Answer Key

The Great Pastry Palace Heist

Culprit: Chef Guy

Matcha Lava Cake · Vanilla Bean · Right Handed · Beret Cap · Peanut Dust

Trail: Start 21 → Clue 1 16 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CULPRIT DOES NOT USE SEA SALT"

$3983 + 2144 = 6127$ (T) · $3212 + 3540 = 6752$ (D) · $1348 + 2793 = 4141$ (L) · $2602 + 1398 = 4000$ (R) · $5774 + 3057 = 8831$ (I) · $1575 + 1658 = 3233$ (S) · $2133 + 1006 = 3139$ (P) · $3017 + 4253 = 7270$ (O) · $1448 + 2745 = 4193$ (C) · $3582 + 3084 = 6666$ (U) · $2551 + 4388 = 6939$ (H) · $4848 + 2859 = 7707$ (A) · $3606 + 5211 = 8817$ (E) · $3241 + 1484 = 4725$ (N)

Clue 2 (Word problems): "RIGHT HANDED"

There were 36 macarons. 19 were used up. How many macarons are left? = 17 (R) · There were 83 cupcakes. 24 were used up. How many cupcakes are left? = 59 (A) · There were 69 souffles. 7 were used up. How many souffles are left? = 62 (N) · Sous Chef found 21 cupcakes yesterday and 7 more today. How many cupcakes in all? = 28 (I) · There were 69 souffles. 2 were used up. How many souffles are left? = 67 (H) · Sous Chef found 30 souffles yesterday and 87 more today. How many souffles in all? = 117 (G) · Sous Chef lined up 9 rows of 11 croissants. How many croissants in all? = 99 (T)

Clue 3 (Percentages): "SNEEZING FITS OCCUR NEAR PEANUT DUST"

25% of 8 = 2 (S) · 5% of 600 = 30 (C) · 40% of 85 = 34 (Z) · 20% of 185 = 37 (D) · 20% of 100 = 20 (R) · 50% of 34 = 17 (N) · 75% of 32 = 24 (E) · 10% of 30 = 3 (I) · 25% of 60 = 15 (O) · 50% of 8 = 4 (F) · 10% of 330 = 33 (A) · 25% of 28 = 7 (G) · 5% of 900 = 45 (T) · 75% of 36 = 27 (P) · 10% of 310 = 31 (U)

Clue 4 (Exponents): "A BLACK BERET CAP FIBER WAS LEFT BEHIND"

$7^3 = 343$ (A) · $7^2 = 49$ (H) · $8^2 = 64$ (F) · $5^2 = 25$ (T) · $11^2 = 121$ (D) · $14^2 = 196$ (S) · $18^2 = 324$ (C) · $17^2 = 289$ (W) · $2^2 = 4$ (K) · $15^2 = 225$ (L) · $13^2 = 169$ (I) · $3^2 = 9$ (N) · $20^2 = 400$ (R) · $10^2 = 100$ (B) · $6^2 = 36$ (E) · $12^2 = 144$ (P)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Chef Guy

$144 \div 12 = 12$ · $32 \div 4 = 8$ · $28 \div 7 = 4$ · $50 \div 5 = 10$ · $10 \div 10 = 1$ · $54 \div 6 = 9$ · $54 \div 9 = 6$ · $14 \div 2 = 7$ · $35 \div 7 = 5$ · $10 \div 5 = 2$ · $55 \div 5 = 11$