The Great Fish Caper

Grade 7 math · Integers, Percentages, Order of operations, Exponents, Two-step equations · Reading level grades 3-4

Detective: _____ **Date:** _____

The legendary Golden Tuna Statue has been swiped from the Purrfect Palace! A mysterious cat burglar slipped past the lasers and vanished into the night. The Royal Fishkeeper needs your help to find the culprit!

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 the Clawed Cat Burglar is _____

Possible suspects

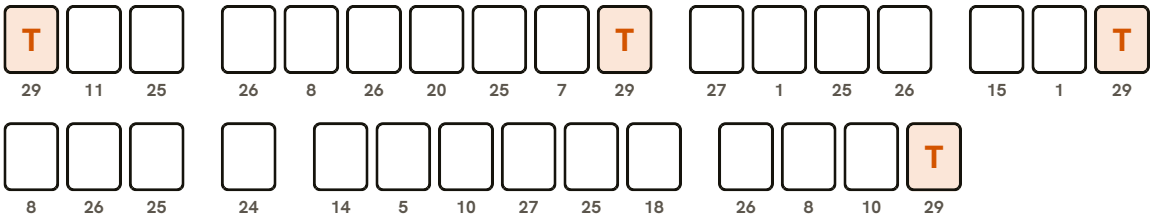
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY ABILITY	SPECIAL GEAR	DOMINANT PAW	COAT STYLE	DISTRACTION
Cleo	Super Jump	Super Sniffer	Left Pawed	Sleek Black Fur	Catnip Treats
Tom	Quiet Paws	Sleepy Purr	Right Pawed	Sleek Black Fur	Catnip Treats
Nala	Quiet Paws	Grappling Yarn	Left Pawed	Tabby Stripes	Vacuum Sounds
Whiskers	Night Vision	Glider Suit	Left Pawed	Tabby Stripes	Vacuum Sounds
Rusty	Quiet Paws	Meow Mimic	Right Pawed	Sleek Black Fur	Laser Pointers
Oreo	Quiet Paws	Super Sniffer	Right Pawed	Sleek Black Fur	Vacuum Sounds
Shadow	Quiet Paws	Glider Suit	Left Pawed	Sleek Black Fur	Vacuum Sounds
Luna	Super Jump	Meow Mimic	Right Pawed	Tabby Stripes	Vacuum Sounds
Milo	Wall Climb	Super Sniffer	Left Pawed	Tabby Stripes	Catnip Treats
Simba	Fast Dash	Meow Mimic	Left Pawed	Tabby Stripes	Laser Pointers
Felix	Wall Climb	Sleepy Purr	Right Pawed	Tabby Stripes	Vacuum Sounds
Socks	Wall Climb	Sleepy Purr	Right Pawed	Sleek Black Fur	Vacuum Sounds
Bella	Super Jump	Meow Mimic	Right Pawed	Sleek Black Fur	Vacuum Sounds
Mittens	Wall Climb	Grappling Yarn	Left Pawed	Calico Fur	Vacuum Sounds
Boots	Super Jump	Glider Suit	Right Pawed	Sleek Black Fur	Vacuum Sounds
Oliver	Fast Dash	Sleepy Purr	Right Pawed	Calico Fur	Vacuum Sounds
Sylvester	Night Vision	Super Sniffer	Left Pawed	Sleek Black Fur	Vacuum Sounds
Chloe	Super Jump	Grappling Yarn	Right Pawed	Sleek Black Fur	Vacuum Sounds
Smokey	Fast Dash	Super Sniffer	Left Pawed	Sleek Black Fur	Laser Pointers
Jasper	Quiet Paws	Super Sniffer	Right Pawed	Calico Fur	Vacuum Sounds
Coco	Wall Climb	Meow Mimic	Right Pawed	Calico Fur	Vacuum Sounds

CLUE 1 Integers

> To find the first clue, we must check the temperature of the cold vault. The vault gets colder and warmer as the gears turn.

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



(-11) + 40 = ☐ → T

5 - (-13) = ☐ → R

(-1) + 28 = ☐ → D

14 - (-6) = ☐ → P

(-14) + 15 = ☐ → O

(-9) + 16 = ☐ → C

8 - (-2) = ☐ → I

6 - (-8) = ☐ → G

1 - (-14) = ☐ → N

2 - (-3) = ☐ → L

22 - (-2) = ☐ → A

(-2) + 27 = ☐ → E

(-14) + 22 = ☐ → U

(-6) + 32 = ☐ → S

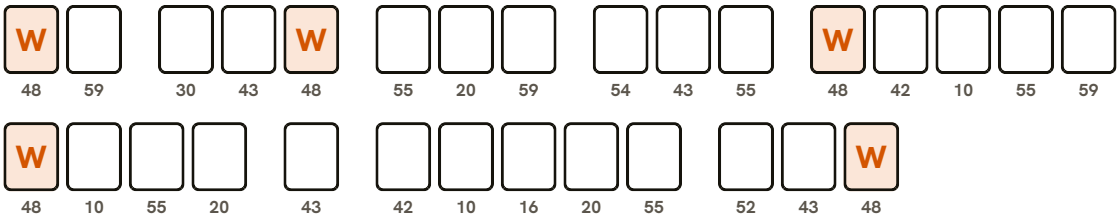
(-1) + 12 = ☐ → H

Scratch space:

CLUE 2 Percentages

> Our robotic mouse helper has a small battery. We need to calculate what percentage of its power is left to retrieve the second clue.

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



25% of 192 = ☐ → W

50% of 118 = ☐ → E

10% of 550 = ☐ → T

50% of 84 = ☐ → R

50% of 20 = ☐ → I

5% of 860 = ☐ → A

50% of 60 = ☐ → S

10% of 540 = ☐ → C

10% of 520 = ☐ → P

20% of 100 = ☐ → H

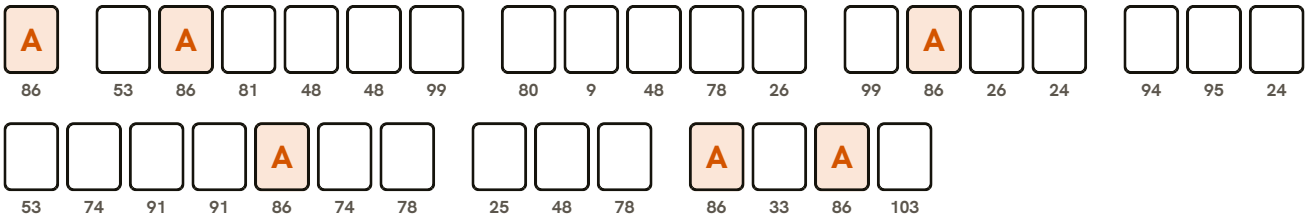
5% of 320 = ☐ → G

Scratch space:

CLUE 3 Order of operations

> The culprit knocked over stacks of toy baskets. Let us count the total scattered toys in the correct order to reveal the third clue.

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



9 × 11 - 13 = ☐ → A

13 + 6 × 2 = ☐ → R

67 + 8 × 4 = ☐ → M

4 × 11 - 11 = ☐ → W

9 × 12 - 27 = ☐ → C

12 × 11 - 29 = ☐ → Y

79 + 4 × 4 = ☐ → H

11 × 6 - 18 = ☐ → U

6 + 3 × 6 = ☐ → E

40 + 6 × 9 = ☐ → T

46 + 4 × 8 = ☐ → N

9 × 4 - 27 = ☐ → O

22 + 2 × 2 = ☐ → D

34 + 5 × 8 = ☐ → I

10 × 6 - 7 = ☐ → V

9 × 11 - 19 = ☐ → S

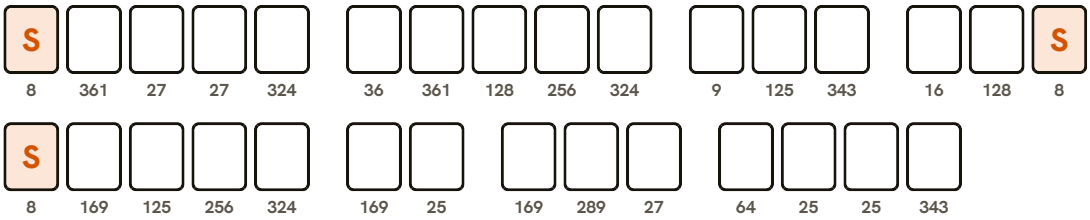
9 × 11 - 8 = ☐ → L

Scratch space:

CLUE 4 Exponents

> A supercomputer is locking the diary. The lock code multiplies by itself several times, and we must find the final power.

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



2^3 = ☐ → S	6^2 = ☐ → B	2^4 = ☐ → W	4^3 = ☐ → D
5^3 = ☐ → U	5^2 = ☐ → O	19^2 = ☐ → L	2^7 = ☐ → A
17^2 = ☐ → H	7^3 = ☐ → R	18^2 = ☐ → K	4^4 = ☐ → C
3^2 = ☐ → F	3^3 = ☐ → E	13^2 = ☐ → T	

Scratch space:

CLUE 5 Two-step equations - the last clue

> The local pet shop charges a basic entry fee plus a cost for each treats cup. Solve for the total cups bought 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:

2x + 6 = 22, x = ☐	5x + 9 = 14, x = ☐	2x + 4 = 22, x = ☐	6x + 3 = 27, x = ☐
2x + 9 = 13, x = ☐	3x + 8 = 29, x = ☐	2x + 11 = 21, x = ☐	6x + 5 = 71, x = ☐
6x + 1 = 19, x = ☐	6x + 9 = 69, x = ☐	2x + 3 = 27, x = ☐	

Step 2 - cross out the sentence with each answer:

1. The villain did a wall climb up the castle tower, then lulled the guard with a sleepy purr.
2. The villain used night vision in the dark hall, then escaped the roof with a glider suit.
3. The villain did a super jump over the fence, then lulled the guard with a sleepy purr.
4. The villain used night vision in the dark hall, then tricked the guard using meow mimic.
5. The villain sneaked by with quiet paws, then tricked the guard using meow mimic.
6. The villain sneaked by with quiet paws, then located the prize using a super sniffer.
7. The villain did a super jump over the fence, then located the prize using a super sniffer.
8. The villain did a super jump over the fence, then zipped up high with a grappling yarn.
9. The villain did a super jump over the fence, then tricked the guard using meow mimic.
10. The villain used night vision in the dark hall, then lulled the guard with a sleepy purr.
11. The villain made a fast dash down the alley, then lulled the guard with a sleepy purr.
12. The villain made a fast dash down the alley, then escaped the roof with a glider suit.

TEACHER / PARENT

Answer Key

The Great Fish Caper

Culprit: Oreo

Quiet Paws · Super Sniffer · Right Pawed · Sleek Black Fur · Vacuum Sounds

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 9 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE SUSPECT DOES NOT USE A GLIDER SUIT"

(-11) + 40 = 29 (T) · 5 - (-13) = 18 (R) · (-1) + 28 = 27 (D) · 14 - (-6) = 20 (P) · (-14) + 15 = 1 (O) · (-9) + 16 = 7 (C) · 8 - (-2) = 10 (I) · 6 - (-8) = 14 (G) · 1 - (-14) = 15 (N) · 2 - (-3) = 5 (L) · 22 - (-2) = 24 (A) · (-2) + 27 = 25 (E) · (-14) + 22 = 8 (U) · (-6) + 32 = 26 (S) · (-1) + 12 = 11 (H)

Clue 2 (Percentages): "WE SAW THE CAT WRITE WITH A RIGHT PAW"

25% of 192 = 48 (W) · 50% of 118 = 59 (E) · 10% of 550 = 55 (T) · 50% of 84 = 42 (R) · 50% of 20 = 10 (I) · 5% of 860 = 43 (A) · 50% of 60 = 30 (S) · 10% of 540 = 54 (C) · 10% of 520 = 52 (P) · 20% of 100 = 20 (H) · 5% of 320 = 16 (G)

Clue 3 (Order of operations): "A VACUUM SOUND MADE THE VILLAIN RUN AWAY"

9 × 11 - 13 = 86 (A) · 13 + 6 × 2 = 25 (R) · 67 + 8 × 4 = 99 (M) · 4 × 11 - 11 = 33 (W) · 9 × 12 - 27 = 81 (C) · 12 × 11 - 29 = 103 (Y) · 79 + 4 × 4 = 95 (H) · 11 × 6 - 18 = 48 (U) · 6 + 3 × 6 = 24 (E) · 40 + 6 × 9 = 94 (T) · 46 + 4 × 8 = 78 (N) · 9 × 4 - 27 = 9 (O) · 22 + 2 × 2 = 26 (D) · 34 + 5 × 8 = 74 (I) · 10 × 6 - 7 = 53 (V) · 9 × 11 - 19 = 80 (S) · 9 × 11 - 8 = 91 (L)

Clue 4 (Exponents): "SLEEK BLACK FUR WAS STUCK TO THE DOOR"

2^3 = 8 (S) · 6^2 = 36 (B) · 2^4 = 16 (W) · 4^3 = 64 (D) · 5^3 = 125 (U) · 5^2 = 25 (O) · 19^2 = 361 (L) · 2^7 = 128 (A) · 17^2 = 289 (H) · 7^3 = 343 (R) · 18^2 = 324 (K) · 4^4 = 256 (C) · 3^2 = 9 (F) · 3^3 = 27 (E) · 13^2 = 169 (T)

Clue 5 (Two-step equations): surviving statement is box 6 → Oreo

2x + 6 = 22, x = 8 · 5x + 9 = 14, x = 1 · 2x + 4 = 22, x = 9 · 6x + 3 = 27, x = 4 · 2x + 9 = 13, x = 2 · 3x + 8 = 29, x = 7 · 2x + 11 = 21, x = 5 · 6x + 5 = 71, x = 11 · 6x + 1 = 19, x = 3 · 6x + 9 = 69, x = 10 · 2x + 3 = 27, x = 12