



The Golden Bone Mystery

Grade 6 math · Place value, Addition, Subtraction, Multiplication, Division · Reading level grades 5-6

Detective: _____ Date: _____

The shiny Golden Bone Trophy vanished right before the Best in Show award ceremony at Barkington Dog Park! A clever puppy pulled off the sneaky heist, leaving behind paw prints, stray fur, and chew toys.

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 Pup is _____

Possible suspects

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

NAME	TRICK SKILL	TOY GEAR	PAW PREFERENCE	FUR STYLE	SQUEAKY TOY
Sadie	Fast Sprinting	Frisbee Catch	Right Pawed	Short Groom	Squeaky Hedgehog
Rosie	Tail Wagging	Chew Rope	Right Pawed	Short Groom	Squeaky Hedgehog
Hazel	Tail Wagging	Chew Rope	Right Pawed	Short Groom	Squeaky Bone
Barnaby	Tail Wagging	Tug Ring	Left Pawed	Shaggy Coat	Squeaky Bone
Peanut	Deep Digging	Frisbee Catch	Right Pawed	Short Groom	Squeaky Mallard
Duke	Tail Wagging	Tug Ring	Left Pawed	Short Groom	Squeaky Bone
Scout	High Jumping	Plush Duck	Right Pawed	Curly Fur	Squeaky Mallard
Rocco	Loud Barking	Tennis Ball Launcher	Left Pawed	Shaggy Coat	Squeaky Mallard
Jax	High Jumping	Chew Rope	Left Pawed	Short Groom	Squeaky Bone
Ziggy	High Jumping	Plush Duck	Right Pawed	Shaggy Coat	Squeaky Hedgehog
Bella	Fast Sprinting	Chew Rope	Left Pawed	Curly Fur	Squeaky Bone
Milo	Fast Sprinting	Tennis Ball Launcher	Right Pawed	Curly Fur	Squeaky Bone
Max	Fast Sprinting	Tennis Ball Launcher	Right Pawed	Curly Fur	Squeaky Mallard
Daisy	High Jumping	Plush Duck	Left Pawed	Short Groom	Squeaky Bone
Kona	High Jumping	Tug Ring	Left Pawed	Short Groom	Squeaky Hedgehog
Louie	Deep Digging	Tug Ring	Left Pawed	Shaggy Coat	Squeaky Mallard
Fifi	Fast Sprinting	Tennis Ball Launcher	Left Pawed	Curly Fur	Squeaky Mallard
Lola	Fast Sprinting	Frisbee Catch	Left Pawed	Short Groom	Squeaky Bone
Gus	Loud Barking	Tennis Ball Launcher	Left Pawed	Short Groom	Squeaky Bone
Penny	Fast Sprinting	Chew Rope	Left Pawed	Curly Fur	Squeaky Hedgehog
Toby	Fast Sprinting	Frisbee Catch	Left Pawed	Curly Fur	Squeaky Mallard

CLUE 1 Place value

The security desk digit display glitches on the pup ID badge numbers, showing digit positions you must decode.

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

T									T
7000	50	700	30	80	30	300	700	9000	7000

50	20	30	70	8000

T									
7000	700	70	70	40	30	4000	20	60	60

60	20	80	70	9000	50	700	400

What is the value of the 7 in 527,962? → **T**

What is the value of the 9 in 249,681? → **C**

What is the value of the 7 in 241,783? → **E**

What is the value of the 5 in 29,354? → **H**

What is the value of the 4 in 583,437? → **R**

What is the value of the 6 in 98,160? → **L**

What is the value of the 8 in 40,989? → **U**

What is the value of the 4 in 35,549? → **I**

What is the value of the 4 in 684,116? → **B**

What is the value of the 3 in 641,375? → **P**

What is the value of the 8 in 148,210? → **O**

What is the value of the 2 in 147,527? → **A**

What is the value of the 3 in 901,736? → **S**

What is the value of the 7 in 416,873? → **N**

Scratch space:

CLUE 2

Addition

The pup trainer added up all the agility course penalty points logged during the morning run.

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

W									W								W
5902	3812	2643	2743	8422	8332	8332	8332	5273	5902	6884	8422	5903	2643	3665	5273	5902	
3665	7795	3812	2743	2643	2743	8422	5273	7795	2643	7795	9798	3665	7811	6756			

$4066 + 1836 = \square \rightarrow \boxed{W}$

$5974 + 3824 = \square \rightarrow \boxed{O}$

$1300 + 1443 = \square \rightarrow \boxed{N}$

$4458 + 3874 = \square \rightarrow \boxed{S}$

$2577 + 4179 = \square \rightarrow \boxed{Y}$

$3268 + 5154 = \square \rightarrow \boxed{E}$

$3206 + 2067 = \square \rightarrow \boxed{A}$

$4792 + 3019 = \square \rightarrow \boxed{H}$

$1270 + 1373 = \square \rightarrow \boxed{T}$

$1963 + 1849 = \square \rightarrow \boxed{I}$

$1591 + 2074 = \square \rightarrow \boxed{P}$

$4088 + 1815 = \square \rightarrow \boxed{F}$

$3524 + 3360 = \square \rightarrow \boxed{L}$

$2534 + 5261 = \square \rightarrow \boxed{R}$

Scratch space:

Subtraction

The judge counted the remaining dog treats in the jar after subtracting those handed out at registration.

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

Diagram showing the arrangement of 28 numbered boxes in two rows. The top row has 14 boxes, with the 6th box (numbered 6185) highlighted in orange and labeled 'T'. The bottom row has 14 boxes, with the 8th box (numbered 4548) highlighted in orange and labeled 'T'. The numbers below the boxes are: Row 1: 6185, 6762, 4895, 1357, 4870, 1357, 5002, 6185, 4806, 1357, 1357, 4895, 2100, 7265, 6762, 4895, 6945. Row 2: 6762, 4895, 4548, 1691, 2265, 6945, 3334, 4548, 5002, 7381, 4870, 4895, 4548, 6360, 2731, 6497, 4806, 6945, 4895.

$7031 - 846 = \boxed{} \rightarrow \boxed{\text{T}}$

$8290 - 3742 = \boxed{} \rightarrow \mathbf{A}$

$$8262 - 1902 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$5203 - 201 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$7236 - 474 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$8515 - 1250 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$6892 - 4792 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$11156 - 4211 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$8501 - 3606 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$2150 - 459 = \boxed{} \rightarrow \boxed{\text{R}}$$

$2779 - 48 = \boxed{} \rightarrow \boxed{\text{Y}}$

$$7922 - 1425 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$4133 - 2776 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$8684 - 1303 = \boxed{} \rightarrow \boxed{\text{Q}}$$

$7372 - 4038 = \boxed{} \rightarrow \boxed{\text{G}}$

$$7502 - 2632 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$6524 - 4259 = \boxed{} \rightarrow \boxed{1}$$

$$7260 - 2454 = \boxed{} \rightarrow \boxed{0}$$

Scratch space:

CLUE 4 Multiplication facts (1-12)

The kennel guard checked six equal rows of crate lockers to tally the total supply boxes.

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

E				E			E										E	
99	2	15	21	99	7	14	99	6	12	88	108	6	50	24	100	14	99	6
88	49	6	12	88	24	50	30	24	88	88	3	49	22	24				

$11 \times 9 = \boxed{} \rightarrow \boxed{\text{E}}$

$2 \times 11 = \boxed{} \rightarrow \boxed{\text{U}}$

$10 \times 10 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$8 \times 11 = \boxed{} \rightarrow \boxed{0}$

$$1 \times 7 = \boxed{} \rightarrow \boxed{\text{N}}$$

$5 \times 3 =$ $\rightarrow$

$10 \times 3 = \square \rightarrow \mathbf{G}$

$2 \times 12 = \boxed{} \rightarrow \boxed{\text{R}}$

$4 \times 3 = \square \rightarrow \boxed{\text{H}}$

$5 \times 10 = \square \rightarrow \boxed{\mathbf{T}}$

$9 \times 12 =$ $\rightarrow$ **W**

$1 \times 2 = \square \rightarrow \boxed{\mathbf{V}}$

$2 \times 7 = \square \rightarrow \boxed{\mathbf{C}}$

$3 \times 7 = \square \rightarrow \boxed{\text{D}}$

$7 \times 7 = \boxed{} \rightarrow \boxed{\text{F}}$

$$2 \times 3 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$3 \times 1 = \boxed{} \rightarrow \boxed{\text{M}}$$

Scratch space:

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

The groomer split the tub of grooming bows equally among all the dog wash stations.

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:

$36 \div 3 = \boxed{}$

$2 \div 1 = \boxed{}$

$18 \div 3 = \boxed{}$

$99 \div 9 = \boxed{}$

$8 \div 8 = \boxed{}$

$63 \div 9 = \boxed{}$

$36 \div 4 = \boxed{}$

$20 \div 5 = \boxed{}$

$12 \div 4 = \boxed{}$

$50 \div 10 = \boxed{}$

$80 \div 8 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain leaped over the fence, then grabbed a flying frisbee.
2. The villain wagged enthusiastically, then pulled a tug ring.
3. The villain dug up the flowerbed, then grabbed a flying frisbee.
4. The villain barked a loud warning, then gnawed on a chew rope.
5. The villain wagged enthusiastically, then grabbed a flying frisbee.
6. The villain sprinted across the lawn, then grabbed a flying frisbee.
7. The villain leaped over the fence, then pulled a tug ring.
8. The villain leaped over the fence, then gnawed on a chew rope.
9. The villain dug up the flowerbed, then pulled a tug ring.
10. The villain barked a loud warning, then pulled a tug ring.
11. The villain dug up the flowerbed, then squeezed a plush duck.
12. The villain leaped over the fence, then squeezed a plush duck.

Answer Key

The Golden Bone Mystery

Culprit: Jax

High Jumping · Chew Rope · Left Pawed · Short Groom · Squeaky Bone

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

Clue 1 (Place value): "THE SUSPECT HAS NO TENNIS BALL LAUNCHER"

What is the value of the 7 in 527,962? = 7000 (T) · What is the value of the 9 in 249,681? = 9000 (C) · What is the value of the 7 in 241,783? = 700 (E) · What is the value of the 5 in 29,354? = 50 (H) · What is the value of the 4 in 583,437? = 400 (R) · What is the value of the 6 in 98,160? = 60 (L) · What is the value of the 8 in 40,989? = 80 (U) · What is the value of the 4 in 35,549? = 40 (I) · What is the value of the 4 in 684,116? = 4000 (B) · What is the value of the 3 in 641,375? = 300 (P) · What is the value of the 8 in 148,210? = 8000 (O) · What is the value of the 2 in 147,527? = 20 (A) · What is the value of the 3 in 901,736? = 30 (S) · What is the value of the 7 in 416,873? = 70 (N)

Clue 2 (Addition): "WITNESS SAW LEFT PAW PRINT NEAR TROPHY"

4066 + 1836 = 5902 (W) · 5974 + 3824 = 9798 (O) · 1300 + 1443 = 2743 (N) · 4458 + 3874 = 8332 (S) · 2577 + 4179 = 6756 (Y) · 3268 + 5154 = 8422 (E) · 3206 + 2067 = 5273 (A) · 4792 + 3019 = 7811 (H) · 1270 + 1373 = 2643 (T) · 1963 + 1849 = 3812 (I) · 1591 + 2074 = 3665 (P) · 4088 + 1815 = 5903 (F) · 3524 + 3360 = 6884 (L) · 2534 + 5261 = 7795 (R)

Clue 3 (Subtraction): "THE PUP STOPPED WHEN HEARING A SQUEAKY BONE"

7031 - 846 = 6185 (T) · 8290 - 3742 = 4548 (A) · 8262 - 1902 = 6360 (K) · 5203 - 201 = 5002 (S) · 7236 - 474 = 6762 (H) · 8515 - 1250 = 7265 (W) · 6892 - 4792 = 2100 (D) · 11156 - 4211 = 6945 (N) · 8501 - 3606 = 4895 (E) · 2150 - 459 = 1691 (R) · 2779 - 48 = 2731 (Y) · 7922 - 1425 = 6497 (B) · 4133 - 2776 = 1357 (P) · 8684 - 1303 = 7381 (Q) · 7372 - 4038 = 3334 (G) · 7502 - 2632 = 4870 (U) · 6524 - 4259 = 2265 (I) · 7260 - 2454 = 4806 (O)

Clue 4 (Multiplication facts (1-12)): "EVIDENCE SHOWS TRACES OF SHORT GROOM FUR"

11 × 9 = 99 (E) · 2 × 11 = 22 (U) · 10 × 10 = 100 (A) · 8 × 11 = 88 (O) · 1 × 7 = 7 (N) · 5 × 3 = 15 (I) · 10 × 3 = 30 (G) · 2 × 12 = 24 (R) · 4 × 3 = 12 (H) · 5 × 10 = 50 (T) · 9 × 12 = 108 (W) · 1 × 2 = 2 (V) · 2 × 7 = 14 (C) · 3 × 7 = 21 (D) · 7 × 7 = 49 (F) · 2 × 3 = 6 (S) · 3 × 1 = 3 (M)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Jax

36 ÷ 3 = 12 · 2 ÷ 1 = 2 · 18 ÷ 3 = 6 · 99 ÷ 9 = 11 · 8 ÷ 8 = 1 · 63 ÷ 9 = 7 · 36 ÷ 4 = 9 · 20 ÷ 5 = 4 · 12 ÷ 4 = 3 · 50 ÷ 10 = 5 · 80 ÷ 8 = 10