The Case of the Missing Golden Bone

Grade 4 math · Addition, Subtraction, Word problems, Place value, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the Pawprint Park Dog Show and snatched the shiny trophy bone right off the judge's table! Inspect the park clues, clear the innocent pups, and track down 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 Grand Dog Thief is _____

Possible suspects

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

NAME	AGILITY SKILL	FAVORITE TRICK	LEASH PAW	COAT TYPE	DISTRACTION TOY
Ruby	Hoop Leap	High Five	Left Pawed	Spotted Coat	Bacon Treat
Finn	Hoop Leap	Play Dead	Left Pawed	Golden Fur	Squeaky Ball
Gus	Tunnel Speed Run	Spin Circle	Right Pawed	Curly Black Hair	Peanut Butter
Lucy	High Ramp Scale	Play Dead	Left Pawed	Curly Black Hair	Squeaky Ball
Jack	Super Hurdle Jump	Roll Over	Left Pawed	Curly Black Hair	Peanut Butter
Barnaby	Weave Pole Dash	Spin Circle	Right Pawed	Curly Black Hair	Peanut Butter
Rosie	Weave Pole Dash	High Five	Left Pawed	Curly Black Hair	Peanut Butter
Max	Hoop Leap	Speak Loud	Left Pawed	Curly Black Hair	Squeaky Ball
Duke	Weave Pole Dash	Speak Loud	Right Pawed	Curly Black Hair	Squeaky Ball
Kobe	High Ramp Scale	Speak Loud	Left Pawed	Curly Black Hair	Bacon Treat
Cooper	Super Hurdle Jump	Speak Loud	Right Pawed	Curly Black Hair	Squeaky Ball
Rocky	High Ramp Scale	Spin Circle	Right Pawed	Golden Fur	Peanut Butter
Lola	Weave Pole Dash	Roll Over	Left Pawed	Spotted Coat	Squeaky Ball
Penny	Tunnel Speed Run	Play Dead	Left Pawed	Curly Black Hair	Squeaky Ball
Zoe	Hoop Leap	Play Dead	Right Pawed	Curly Black Hair	Peanut Butter
Oliver	Tunnel Speed Run	Speak Loud	Left Pawed	Curly Black Hair	Peanut Butter
Buster	High Ramp Scale	Spin Circle	Left Pawed	Curly Black Hair	Squeaky Ball
Bella	Hoop Leap	Roll Over	Right Pawed	Golden Fur	Squeaky Ball
Hazel	Super Hurdle Jump	High Five	Left Pawed	Curly Black Hair	Squeaky Ball
Daisy	Weave Pole Dash	Roll Over	Right Pawed	Curly Black Hair	Squeaky Ball
Scout	Tunnel Speed Run	High Five	Right Pawed	Curly Black Hair	Bacon Treat

make your own at mathcrackers.com

CLUE 1

Addition

The police pup tallies up the agility cones left on the agility field to unlock the first clue.

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



4002 + 1931 = ☐ → T

2335 + 2763 = ☐ → U

5189 + 3531 = ☐ → D

1251 + 1105 = ☐ → C

5048 + 3296 = ☐ → L

1688 + 1581 = ☐ → N

2803 + 1767 = ☐ → R

2200 + 1444 = ☐ → S

2540 + 5680 = ☐ → P

1213 + 2694 = ☐ → E

2394 + 1301 = ☐ → H

3650 + 1774 = ☐ → I

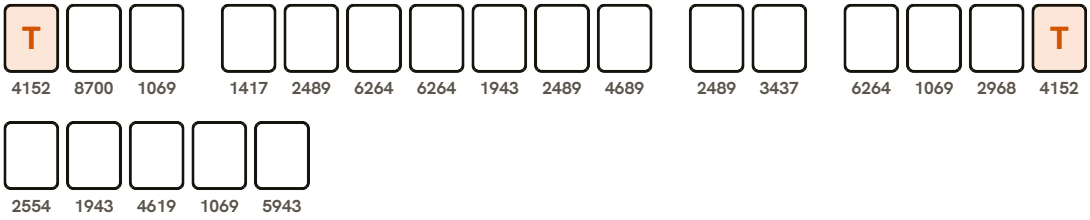
3895 + 3387 = ☐ → O

Scratch space:

CLUE 2 Subtraction

The detective pup subtracts the missing treat bags from the total order to reveal a secret witness note.

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



4248 - 96 = ☐ → T

1833 - 764 = ☐ → E

5630 - 941 = ☐ → N

4742 - 1774 = ☐ → F

6090 - 4673 = ☐ → V

5003 - 2514 = ☐ → I

7132 - 868 = ☐ → L

4247 - 2304 = ☐ → A

6437 - 3883 = ☐ → P

11761 - 3061 = ☐ → H

9605 - 4986 = ☐ → W

5834 - 2397 = ☐ → S

6980 - 1037 = ☐ → D

Scratch space:

CLUE 3 Word problems

Solving a tricky park puzzle in the detective notebook opens the next clue folder.

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

Someone scared the villain off with

S							B		L	L
41	57	22	33	63	20	77		63		

.

There were 44 grooming brushes. 3 were used up. How many grooming brushes are left?

Answer: ☐ → S

Detective pup lined up 7 rows of 11 leashes. How many leashes in all?

Answer: ☐ → Y

Detective pup found 17 leashes yesterday and 5 more today. How many leashes in all?

Answer: ☐ → U

Detective pup lined up 10 rows of 2 chew toys. How many chew toys in all?

Answer: ☐ → K

There were 69 chew toys. 36 were used up. How many chew toys are left?

Answer: ☐ → E

Detective pup lined up 9 rows of 7 dog biscuits. How many dog biscuits in all?

Answer: ☐ → A

Detective pup found 25 leashes yesterday and 32 more today. How many leashes in all?

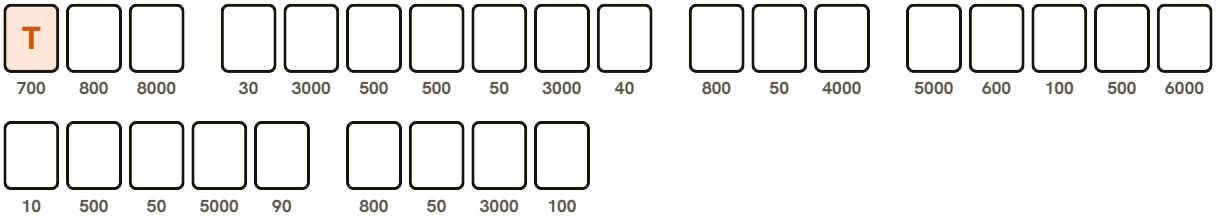
Answer: ☐ → Q

Scratch space:

CLUE 4 Place value

Checking the digit positions on a digital collar scanner unlocks the suspect report.

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



What is the value of the 7 in 733? ☐ → T

What is the value of the 5 in 596? ☐ → L

What is the value of the 4 in 84,597? ☐ → S

What is the value of the 5 in 654? ☐ → A

What is the value of the 4 in 3,342? ☐ → N

What is the value of the 6 in 26,545? ☐ → Y

What is the value of the 1 in 9,918? ☐ → B

What is the value of the 5 in 25,689? ☐ → C

What is the value of the 1 in 8,196? ☐ → R

What is the value of the 8 in 3,862? ☐ → H

What is the value of the 8 in 58,226? ☐ → E

What is the value of the 6 in 641? ☐ → U

What is the value of the 3 in 3,529? ☐ → I

What is the value of the 3 in 9,634? ☐ → V

What is the value of the 9 in 3,795? ☐ → K

Scratch space:

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

> Sharing the dog biscuits equally into reward bowls reveals the final piece of evidence.

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:

18 ÷ 6 = ☐	7 ÷ 1 = ☐	66 ÷ 6 = ☐	6 ÷ 1 = ☐	36 ÷ 9 = ☐
2 ÷ 1 = ☐	72 ÷ 6 = ☐	10 ÷ 10 = ☐	60 ÷ 12 = ☐	54 ÷ 6 = ☐
64 ÷ 8 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain weaved between the yellow poles, then rolled over across the grass.
2. The villain leaped through the shiny hoop, then gave a high five to a bystander.
3. The villain scrambled up the wooden ramp, then played dead behind the shed.
4. The villain scrambled up the wooden ramp, then gave a high five to a bystander.
5. The villain jumped over the high hurdle, then barked loudly at the crowd.
6. The villain zoomed through the blue tunnel, then gave a high five to a bystander.
7. The villain leaped through the shiny hoop, then barked loudly at the crowd.
8. The villain leaped through the shiny hoop, then spun in circles near the gate.
9. The villain jumped over the high hurdle, then rolled over across the grass.
10. The villain jumped over the high hurdle, then gave a high five to a bystander.
11. The villain zoomed through the blue tunnel, then played dead behind the shed.
12. The villain weaved between the yellow poles, then spun in circles near the gate.

TEACHER / PARENT

Answer Key

The Case of the Missing Golden Bone

Culprit: Hazel

Super Hurdle Jump · High Five · Left Pawed · Curly Black Hair · Squeaky Ball

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SUSPECT DID NOT SPIN IN CIRCLES"

4002 + 1931 = 5933 (T) · 2335 + 2763 = 5098 (U) · 5189 + 3531 = 8720 (D) · 1251 + 1105 = 2356 (C) · 5048 + 3296 = 8344 (L) · 1688 + 1581 = 3269 (N) · 2803 + 1767 = 4570 (R) · 2200 + 1444 = 3644 (S) · 2540 + 5680 = 8220 (P) · 1213 + 2694 = 3907 (E) · 2394 + 1301 = 3695 (H) · 3650 + 1774 = 5424 (I) · 3895 + 3387 = 7282 (O)

Clue 2 (Subtraction): "THE VILLAIN IS LEFT PAWED"

4248 - 96 = 4152 (T) · 1833 - 764 = 1069 (E) · 5630 - 941 = 4689 (N) · 4742 - 1774 = 2968 (F) · 6090 - 4673 = 1417 (V) · 5003 - 2514 = 2489 (I) · 7132 - 868 = 6264 (L) · 4247 - 2304 = 1943 (A) · 6437 - 3883 = 2554 (P) · 11761 - 3061 = 8700 (H) · 9605 - 4986 = 4619 (W) · 5834 - 2397 = 3437 (S) · 6980 - 1037 = 5943 (D)

Clue 3 (Word problems): "SQUEAKY BALL"

There were 44 grooming brushes. 3 were used up. How many grooming brushes are left? = 41 (S) · Detective pup lined up 7 rows of 11 leashes. How many leashes in all? = 77 (Y) · Detective pup found 17 leashes yesterday and 5 more today. How many leashes in all? = 22 (U) · Detective pup lined up 10 rows of 2 chew toys. How many chew toys in all? = 20 (K) · There were 69 chew toys. 36 were used up. How many chew toys are left? = 33 (E) · Detective pup lined up 9 rows of 7 dog biscuits. How many dog biscuits in all? = 63 (A) · Detective pup found 25 leashes yesterday and 32 more today. How many leashes in all? = 57 (Q)

Clue 4 (Place value): "THE VILLAIN HAS CURLY BLACK HAIR"

What is the value of the 7 in 733? = 700 (T) · What is the value of the 5 in 596? = 500 (L) · What is the value of the 4 in 84,597? = 4000 (S) · What is the value of the 5 in 654? = 50 (A) · What is the value of the 4 in 3,342? = 40 (N) · What is the value of the 6 in 26,545? = 6000 (Y) · What is the value of the 1 in 9,918? = 10 (B) · What is the value of the 5 in 25,689? = 5000 (C) · What is the value of the 1 in 8,196? = 100 (R) · What is the value of the 8 in 3,862? = 800 (H) · What is the value of the 8 in 58,226? = 8000 (E) · What is the value of the 6 in 641? = 600 (U) · What is the value of the 3 in 3,529? = 3000 (I) · What is the value of the 3 in 9,634? = 30 (V) · What is the value of the 9 in 3,795? = 90 (K)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Hazel

18 ÷ 6 = 3 · 7 ÷ 1 = 7 · 66 ÷ 6 = 11 · 6 ÷ 1 = 6 · 36 ÷ 9 = 4 · 2 ÷ 1 = 2 · 72 ÷ 6 = 12 · 10 ÷ 10 = 1 · 60 ÷ 12 = 5 · 54 ÷ 6 = 9 · 64 ÷ 8 = 8