The Great Barkington Trophy Mystery

Grade 4 math · Subtraction, Bar models, Addition, Word problems, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

The golden trophy bone went missing right before the big dog show grand final! Detective Pup is searching the agility arena to catch the sneaky thief before the final ribbon is awarded.

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 Biscuit Bandit is _____

Possible suspects

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

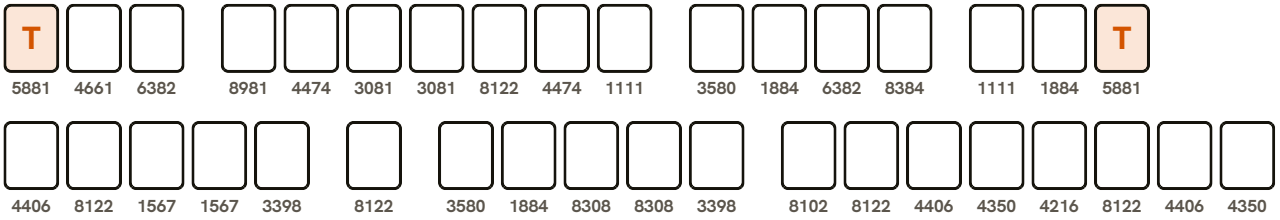
NAME	TRICK SKILL	DOG GEAR	BANDANA STYLE	FUR COAT	DISTRACTION
Oliver Hound	Barrel Roll	Squeaky Ball	Red Polka Dots	Smooth Retriever Fur	Peanut Butter Treat
Bailey Beagle	Moonwalk Jump	Squeaky Ball	Red Polka Dots	Curly Poodle Fur	Bacon Chew Toy
Zoey Poodle	Backflip	Golden Leash	Blue Stripes	Smooth Retriever Fur	Squeaky Duck
Penny Pug	High Five	Golden Leash	Blue Stripes	Curly Poodle Fur	Squeaky Duck
Bear Bulldog	Hoop Jump	Squeaky Ball	Red Polka Dots	Curly Poodle Fur	Peanut Butter Treat
Roxy Pointer	High Five	Squeaky Ball	Red Polka Dots	Curly Poodle Fur	Bacon Chew Toy
Luna Leash	Backflip	Squeaky Ball	Red Polka Dots	Curly Poodle Fur	Peanut Butter Treat
Buster Barkington	Hoop Jump	Doggy Backpack	Blue Stripes	Curly Poodle Fur	Peanut Butter Treat
Stella Husky	Barrel Roll	Plush Donut	Blue Stripes	Curly Poodle Fur	Peanut Butter Treat
Cooper Corgi	Hoop Jump	Golden Leash	Red Polka Dots	Curly Poodle Fur	Squeaky Duck
Teddy Whippet	Barrel Roll	Golden Leash	Red Polka Dots	Shaggy Terrier Fur	Squeaky Duck
Leo Boxer	Moonwalk Jump	Plush Donut	Red Polka Dots	Smooth Retriever Fur	Peanut Butter Treat
Charlie Chew	High Five	Doggy Backpack	Blue Stripes	Curly Poodle Fur	Squeaky Duck
Bella Biscuit	Barrel Roll	Doggy Backpack	Red Polka Dots	Curly Poodle Fur	Squeaky Duck
Duke Dalmatian	Backflip	Doggy Backpack	Blue Stripes	Curly Poodle Fur	Squeaky Duck
Lola Spaniel	High Five	Squeaky Ball	Blue Stripes	Smooth Retriever Fur	Bacon Chew Toy
Max Muzzle	Barrel Roll	Plush Donut	Red Polka Dots	Curly Poodle Fur	Peanut Butter Treat
Ruby Pinscher	Backflip	Golden Leash	Red Polka Dots	Curly Poodle Fur	Squeaky Duck
Daisy Doolittle	Moonwalk Jump	Tennis Launcher	Red Polka Dots	Curly Poodle Fur	Squeaky Duck
Nala Collie	Moonwalk Jump	Golden Leash	Red Polka Dots	Shaggy Terrier Fur	Peanut Butter Treat
Milo Mastiff	Moonwalk Jump	Squeaky Ball	Red Polka Dots	Curly Poodle Fur	Squeaky Duck

make your own at mathcrackers.com

CLUE 1 Subtraction

Detective Pup draws a bar model on his notepad to compare the dog agility scores and uncover the first clue.

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



8600 - 2719 = ☐ → T	6751 - 2535 = ☐ → P	12771 - 4387 = ☐ → S
6629 - 3049 = ☐ → D	3747 - 666 = ☐ → L	11325 - 2344 = ☐ → V
2706 - 1139 = ☐ → R	6412 - 4528 = ☐ → O	5606 - 2208 = ☐ → Y
4988 - 327 = ☐ → H	11110 - 2802 = ☐ → G	7168 - 2818 = ☐ → K
5938 - 1464 = ☐ → I	5732 - 1326 = ☐ → C	9263 - 1161 = ☐ → B
8307 - 1925 = ☐ → E	10290 - 2168 = ☐ → A	2021 - 910 = ☐ → N

Scratch space:

CLUE 2 Bar model word problems

Detective Pup subtracts the missing agility cones from the main storage locker to decode the next secret.

Draw a bar model to solve each word problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R							A			T	S
	109	94	24	45	136	127	137		24	136	

.

There were 114 tennis balls in all. 5 tennis balls were used. How many tennis balls are left?

draw a bar model

Answer: ☐ → R

There were 45 chew toys in all. 21 chew toys were used. How many chew toys are left?

draw a bar model

Answer: ☐ → D

There were 155 dog biscuits in all. 28 dog biscuits were used. How many dog biscuits are left?

draw a bar model

Answer: ☐ → L

The red team has 149 dog biscuits and the blue team has 13 dog biscuits. How many more dog biscuits does the red team have?

draw a bar model

Answer: ☐ → O

There were 168 tennis balls in all. 31 tennis balls were used. How many tennis balls are left?

draw a bar model

Answer: ☐ → K

Trainer Toby shares 188 dog biscuits equally among 2 teams. How many dog biscuits does each team get?

draw a bar model

Answer: ☐ → E

One group collected 13 tennis balls and another group collected 32 tennis balls. How many tennis balls in all?

draw a bar model

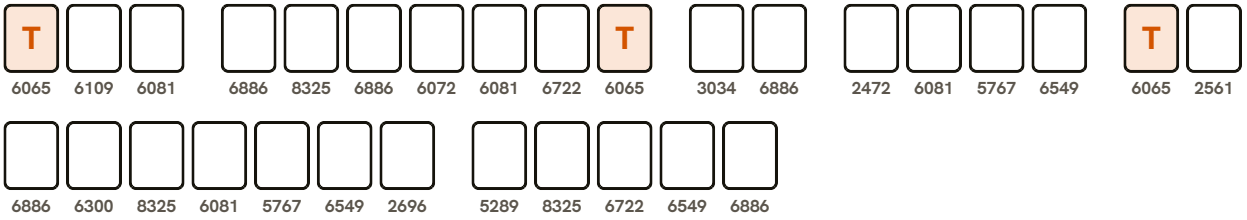
Answer: ☐ → P

CLUE 3

Addition

Detective Pup adds up all the bone treats left near the obstacle course to reveal another clue.

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



3031 + 3034 = ☐ → T	3044 + 2245 = ☐ → D	1721 + 975 = ☐ → Y
5144 + 3181 = ☐ → U	3918 + 2191 = ☐ → H	4181 + 1900 = ☐ → E
1463 + 1009 = ☐ → W	2736 + 4150 = ☐ → S	3536 + 2536 = ☐ → P
4687 + 2035 = ☐ → C	1430 + 1131 = ☐ → O	3262 + 2505 = ☐ → A
1126 + 1908 = ☐ → I	2725 + 3575 = ☐ → Q	3040 + 3509 = ☐ → K

Scratch space:

CLUE 4 Word problems

Detective Pup solves a word problem hidden inside the dog trainer handbook to spot the next detail.

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

A strand of

C								D		E	F			hair turned up at the
59	41	13	27	77	26	14	14		27			41	13	

scene.

Trainer Toby found 23 tennis balls yesterday and 36 more today. How many tennis balls in all?

Answer: ☐ → **C**

Trainer Toby found 6 chew toys yesterday and 35 more today. How many chew toys in all?

Answer: ☐ → **U**

Trainer Toby lined up 3 rows of 9 chew toys. How many chew toys in all?

Answer: ☐ → **L**

Trainer Toby lined up 11 rows of 7 agility cones. How many agility cones in all?

Answer: ☐ → **Y**

Trainer Toby lined up 7 rows of 2 dog biscuits. How many dog biscuits in all?

Answer: ☐ → **O**

There were 28 chew toys. 2 were used up. How many chew toys are left?

Answer: ☐ → **P**

Trainer Toby found 9 dog biscuits yesterday and 4 more today. How many dog biscuits in all?

Answer: ☐ → **R**

Scratch space:

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

Detective Pup divides the tennis balls evenly into training baskets to crack 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:

70 ÷ 10 = ☐	30 ÷ 6 = ☐	4 ÷ 1 = ☐	30 ÷ 10 = ☐	12 ÷ 6 = ☐
11 ÷ 11 = ☐	45 ÷ 5 = ☐	96 ÷ 8 = ☐	50 ÷ 5 = ☐	12 ÷ 2 = ☐
32 ÷ 4 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain did a quick barrel roll, then squeezed a plush donut.
2. The villain leapt through a hoop, then fired a tennis launcher.
3. The villain nailed a backflip, then tossed a squeaky ball.
4. The villain leapt through a hoop, then clipped a golden leash.
5. The villain showed off a moonwalk jump, then tossed a squeaky ball.
6. The villain performed a high five, then tossed a squeaky ball.
7. The villain showed off a moonwalk jump, then fired a tennis launcher.
8. The villain leapt through a hoop, then zipped a doggy backpack.
9. The villain did a quick barrel roll, then clipped a golden leash.
10. The villain did a quick barrel roll, then fired a tennis launcher.
11. The villain nailed a backflip, then clipped a golden leash.
12. The villain performed a high five, then zipped a doggy backpack.

TEACHER / PARENT

Answer Key

The Great Barkington Trophy Mystery

Culprit: Ruby Pinscher

Backflip · Golden Leash · Red Polka Dots · Curly Poodle Fur · Squeaky Duck

Trail: Start 21 → Clue 1 17 → Clue 2 13 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Subtraction): "THE VILLAIN DOES NOT CARRY A DOGGY BACKPACK"

8600 - 2719 = 5881 (T) · 6751 - 2535 = 4216 (P) · 12771 - 4387 = 8384 (S) · 6629 - 3049 = 3580 (D) · 3747 - 666 = 3081 (L) · 11325 - 2344 = 8981 (V) · 2706 - 1139 = 1567 (R) · 6412 - 4528 = 1884 (O) · 5606 - 2208 = 3398 (Y) · 4988 - 327 = 4661 (H) · 11110 - 2802 = 8308 (G) · 7168 - 2818 = 4350 (K) · 5938 - 1464 = 4474 (I) · 5732 - 1326 = 4406 (C) · 9263 - 1161 = 8102 (B) · 8307 - 1925 = 6382 (E) · 10290 - 2168 = 8122 (A) · 2021 - 910 = 1111 (N)

Clue 2 (Bar model word problems): "RED POLKA DOTS"

There were 114 tennis balls in all. 5 tennis balls were used. How many tennis balls are left? = 109 (R) · There were 45 chew toys in all. 21 chew toys were used. How many chew toys are left? = 24 (D) · There were 155 dog biscuits in all. 28 dog biscuits were used. How many dog biscuits are left? = 127 (L) · The red team has 149 dog biscuits and the blue team has 13 dog biscuits. How many more dog biscuits does the red team have? = 136 (O) · There were 168 tennis balls in all. 31 tennis balls were used. How many tennis balls are left? = 137 (K) · Trainer Toby shares 188 dog biscuits equally among 2 teams. How many dog biscuits does each team get? = 94 (E) · One group collected 13 tennis balls and another group collected 32 tennis balls. How many tennis balls in all? = 45 (P)

Clue 3 (Addition): "THE SUSPECT IS WEAK TO SQUEAKY DUCKS"

3031 + 3034 = 6065 (T) · 3044 + 2245 = 5289 (D) · 1721 + 975 = 2696 (Y) · 5144 + 3181 = 8325 (U) · 3918 + 2191 = 6109 (H) · 4181 + 1900 = 6081 (E) · 1463 + 1009 = 2472 (W) · 2736 + 4150 = 6886 (S) · 3536 + 2536 = 6072 (P) · 4687 + 2035 = 6722 (C) · 1430 + 1131 = 2561 (O) · 3262 + 2505 = 5767 (A) · 1126 + 1908 = 3034 (I) · 2725 + 3575 = 6300 (Q) · 3040 + 3509 = 6549 (K)

Clue 4 (Word problems): "CURLY POODLE FUR"

Trainer Toby found 23 tennis balls yesterday and 36 more today. How many tennis balls in all? = 59 (C) · Trainer Toby found 6 chew toys yesterday and 35 more today. How many chew toys in all? = 41 (U) · Trainer Toby lined up 3 rows of 9 chew toys. How many chew toys in all? = 27 (L) · Trainer Toby lined up 11 rows of 7 agility cones. How many agility cones in all? = 77 (Y) · Trainer Toby lined up 7 rows of 2 dog biscuits. How many dog biscuits in all? = 14 (O) · There were 28 chew toys. 2 were used up. How many chew toys are left? = 26 (P) · Trainer Toby found 9 dog biscuits yesterday and 4 more today. How many dog biscuits in all? = 13 (R)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Ruby Pinscher

70 ÷ 10 = 7 · 30 ÷ 6 = 5 · 4 ÷ 1 = 4 · 30 ÷ 10 = 3 · 12 ÷ 6 = 2 · 11 ÷ 11 = 1 · 45 ÷ 5 = 9 · 96 ÷ 8 = 12 · 50 ÷ 5 = 10 · 12 ÷ 2 = 6 · 32 ÷ 4 = 8