



The Case of the Lost Catnip Pearl

Grade 6 math · Addition, Subtraction, Multiplication, Word problems, Division · Reading level grades 3-4

Detective: _____ Date: _____

A sneaky mer-cat has snatched the Golden Catnip Pearl from the Grand Clam Shell! The Purrmaid Patrol needs your help to find the culprit before the coral party begins.

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 rogue mer-cat is _____

Possible suspects

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

NAME	PRIMARY MAGIC	SECONDARY SKILL	DOMINANT PAW	MANE COLOR	DISTRACTION
Marina	purr chanting	starfish throwing	right pawed	coral pink	bright laser pointer
Clawd	tail splashing	tuna sharing	right pawed	sunny yellow	smelly wet food
Pearl	purr chanting	tuna sharing	left pawed	seafoam green	bright laser pointer
Clawdia	bubble blasting	yarn weaving	left pawed	sunny yellow	smelly wet food
Meowly	bubble blasting	yarn weaving	left pawed	seafoam green	smelly wet food
Whiskers	claw digging	tuna sharing	right pawed	coral pink	smelly wet food
Mew	tail splashing	coral climbing	left pawed	sunny yellow	smelly wet food
Barnaby	bubble blasting	tuna sharing	left pawed	sunny yellow	smelly wet food
Glimmer	bubble blasting	yarn weaving	right pawed	coral pink	bright laser pointer
Finley	purr chanting	coral climbing	right pawed	seafoam green	crinkly foil ball
Shelly	whiskers sensing	yarn weaving	right pawed	sunny yellow	crinkly foil ball
Bubbles	tail splashing	yarn weaving	left pawed	sunny yellow	bright laser pointer
Salty	bubble blasting	shell matching	left pawed	sunny yellow	smelly wet food
Neptuna	whiskers sensing	coral climbing	right pawed	coral pink	bright laser pointer
Cleo	purr chanting	shell matching	right pawed	coral pink	smelly wet food
Splash	bubble blasting	tuna sharing	left pawed	coral pink	crinkly foil ball
Waverly	purr chanting	starfish throwing	left pawed	sunny yellow	crinkly foil ball
Finny	bubble blasting	yarn weaving	left pawed	coral pink	smelly wet food
Sunny	purr chanting	coral climbing	left pawed	sunny yellow	smelly wet food
Misty	tail splashing	tuna sharing	left pawed	sunny yellow	crinkly foil ball
Sandy	claw digging	yarn weaving	right pawed	sunny yellow	crinkly foil ball

CLUE 1 Addition

We need to tally up all the catnip leaves recovered from the sandy floor. Let's add them together to get the first clue.

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

T																	
3858	9148	8128	7695	2367	2137	4262	6235	7770	3858	7695	8046	9078	9078	3532	3858	8363	3532

5976	9148	8128	2137	2137	4084	8046	3858	7695	9148	7770	9078	2087	

$1667 + 2191 = \square \rightarrow \text{T}$	$1973 + 2111 = \square \rightarrow \text{M}$	$1449 + 2813 = \square \rightarrow \text{P}$
$970 + 1397 = \square \rightarrow \text{U}$	$3850 + 2126 = \square \rightarrow \text{S}$	$3481 + 4882 = \square \rightarrow \text{D}$
$3003 + 5043 = \square \rightarrow \text{A}$	$2490 + 5205 = \square \rightarrow \text{C}$	$1286 + 851 = \square \rightarrow \text{L}$
$666 + 1421 = \square \rightarrow \text{G}$	$2918 + 3317 = \square \rightarrow \text{R}$	$5394 + 2376 = \square \rightarrow \text{I}$
$3618 + 5530 = \square \rightarrow \text{H}$	$4415 + 4663 = \square \rightarrow \text{N}$	$1848 + 1684 = \square \rightarrow \text{O}$
$4072 + 4056 = \square \rightarrow \text{E}$		

Scratch space:

CLUE 2 Subtraction

Barnaby had a basket of shiny pearls, but the thief knocked some over! Let's subtract the spilled pearls to see what is left.

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

T																		
7204	4920	6285	1695	2206	6285	3337	5167	4923	6730	2639	5399	5399	3337	2639	2206	2639	1695	

			T					
5399	6285	3814	7204	3095	3337	6897	6285	8270

$11893 - 4689 = \square \rightarrow \boxed{\text{T}}$	$11470 - 4740 = \square \rightarrow \boxed{\text{V}}$	$5618 - 451 = \square \rightarrow \boxed{\text{K}}$
$4226 - 2531 = \square \rightarrow \boxed{\text{S}}$	$2459 - 253 = \square \rightarrow \boxed{\text{N}}$	$8642 - 372 = \square \rightarrow \boxed{\text{D}}$
$5168 - 248 = \square \rightarrow \boxed{\text{H}}$	$6403 - 3308 = \square \rightarrow \boxed{\text{P}}$	$10282 - 3385 = \square \rightarrow \boxed{\text{W}}$
$6335 - 50 = \square \rightarrow \boxed{\text{E}}$	$3686 - 349 = \square \rightarrow \boxed{\text{A}}$	$9472 - 4549 = \square \rightarrow \boxed{\text{Y}}$
$7531 - 3717 = \square \rightarrow \boxed{\text{F}}$	$9105 - 3706 = \square \rightarrow \boxed{\text{L}}$	$5562 - 2923 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

CLUE 3

Multiplication facts (1-12)

The patrol cats swim in neat rows of five. Let's multiply the rows to count the total guards on duty.

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

T																		
3	33	42	6	9	42	21	21	50	16	42	3	27	2	2	25			
			T				T		T									
25	144	6	3	110	28	22	3	6	3	33	42	35	144	21	21	28	144	63

$1 \times 3 = \square \rightarrow \boxed{\text{T}}$

$7 \times 5 = \square \rightarrow \boxed{\text{V}}$

$3 \times 9 = \square \rightarrow \boxed{\text{F}}$

$11 \times 3 = \square \rightarrow \boxed{\text{H}}$

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

$5 \times 5 = \square \rightarrow \boxed{\text{D}}$

$10 \times 5 = \square \rightarrow \boxed{\text{Y}}$

$1 \times 9 = \square \rightarrow \boxed{\text{M}}$

$11 \times 2 = \square \rightarrow \boxed{\text{C}}$

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

$11 \times 10 = \square \rightarrow \boxed{\text{R}}$

$2 \times 1 = \square \rightarrow \boxed{\text{O}}$

$4 \times 7 = \square \rightarrow \boxed{\text{A}}$

$12 \times 12 = \square \rightarrow \boxed{\text{I}}$

$2 \times 8 = \square \rightarrow \boxed{\text{W}}$

$7 \times 9 = \square \rightarrow \boxed{\text{N}}$

$7 \times 6 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 4

Word problems

Help the Purrmaid Patrol solve this word puzzle written on a clam shell to uncover the next secret!

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

A strand of S W hair turned up at the scene.

64 63 20 20 105 105 38 40 40 111

Barnaby lined up 8 rows of 8 catnip treats. How many catnip treats in all?

Answer: → S

There were 86 catnip treats. 23 were used up. How many catnip treats are left?

Answer: → U

There were 130 catnip treats. 19 were used up. How many catnip treats are left?

Answer: → O

Barnaby lined up 8 rows of 5 kelp ribbons. How many kelp ribbons in all?

Answer: → L

Barnaby lined up 10 rows of 2 toy mice. How many toy mice in all?

Answer: → N

Barnaby found 87 catnip treats yesterday and 18 more today. How many catnip treats in all?

Answer: → Y

There were 60 pearl beads. 22 were used up. How many pearl beads are left?

Answer: → E

Scratch space:

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

The patrol must share their fish treats equally among the friendly sea-snail witnesses. Let's divide them up!

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:

$54 \div 9 = \boxed{}$

$44 \div 11 = \boxed{}$

$132 \div 11 = \boxed{}$

$5 \div 5 = \boxed{}$

$18 \div 9 = \boxed{}$

$50 \div 10 = \boxed{}$

$21 \div 7 = \boxed{}$

$32 \div 4 = \boxed{}$

$99 \div 11 = \boxed{}$

$90 \div 9 = \boxed{}$

$14 \div 2 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain splashes their tail to kick up dust, then weaves a yarn net to escape.
2. The villain digs their sharp claws into the sand, then weaves a yarn net to escape.
3. The villain digs their sharp claws into the sand, then throws a glowing starfish as a decoy.
4. The villain sings a purr chant to sleep the guards, then climbs up the sharp coral wall.
5. The villain sings a purr chant to sleep the guards, then matches colorful shells to open a path.
6. The villain blasts bubble magic to open the lock, then shares tuna treats with sea snails.
7. The villain sings a purr chant to sleep the guards, then shares tuna treats with sea snails.
8. The villain splashes their tail to kick up dust, then throws a glowing starfish as a decoy.
9. The villain sings a purr chant to sleep the guards, then weaves a yarn net to escape.
10. The villain digs their sharp claws into the sand, then climbs up the sharp coral wall.
11. The villain blasts bubble magic to open the lock, then weaves a yarn net to escape.
12. The villain splashes their tail to kick up dust, then climbs up the sharp coral wall.

Answer Key

The Case of the Lost Catnip Pearl

Culprit: Clawdia

bubble blasting · yarn weaving · left pawed · sunny yellow · smelly wet food

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CULPRIT CANNOT DO SHELL MATCHING"

$1667 + 2191 = 3858$ (T) · $1973 + 2111 = 4084$ (M) · $1449 + 2813 = 4262$ (P) · $970 + 1397 = 2367$ (U) · $3850 + 2126 = 5976$ (S) · $3481 + 4882 = 8363$ (D) · $3003 + 5043 = 8046$ (A) · $2490 + 5205 = 7695$ (C) · $1286 + 851 = 2137$ (L) · $666 + 1421 = 2087$ (G) · $2918 + 3317 = 6235$ (R) · $5394 + 2376 = 7770$ (I) · $3618 + 5530 = 9148$ (H) · $4415 + 4663 = 9078$ (N) · $1848 + 1684 = 3532$ (O) · $4072 + 4056 = 8128$ (E)

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

$11893 - 4689 = 7204$ (T) · $11470 - 4740 = 6730$ (V) · $5618 - 451 = 5167$ (K) · $4226 - 2531 = 1695$ (S) · $2459 - 253 = 2206$ (N) · $8642 - 372 = 8270$ (D) · $5168 - 248 = 4920$ (H) · $6403 - 3308 = 3095$ (P) · $10282 - 3385 = 6897$ (W) · $6335 - 50 = 6285$ (E) · $3686 - 349 = 3337$ (A) · $9472 - 4549 = 4923$ (Y) · $7531 - 3717 = 3814$ (F) · $9105 - 3706 = 5399$ (L) · $5562 - 2923 = 2639$ (I)

Clue 3 (Multiplication facts (1-12)): "THE SMELLY WET FOOD DISTRACTS THE VILLAIN"

$1 \times 3 = 3$ (T) · $7 \times 5 = 35$ (V) · $3 \times 9 = 27$ (F) · $11 \times 3 = 33$ (H) · $2 \times 3 = 6$ (S) · $5 \times 5 = 25$ (D) · $10 \times 5 = 50$ (Y) · $1 \times 9 = 9$ (M) · $11 \times 2 = 22$ (C) · $3 \times 7 = 21$ (L) · $11 \times 10 = 110$ (R) · $2 \times 1 = 2$ (O) · $4 \times 7 = 28$ (A) · $12 \times 12 = 144$ (I) · $2 \times 8 = 16$ (W) · $7 \times 9 = 63$ (N) · $7 \times 6 = 42$ (E)

Clue 4 (Word problems): "SUNNY YELLOW"

Barnaby lined up 8 rows of 8 catnip treats. How many catnip treats in all? = 64 (S) · There were 86 catnip treats. 23 were used up. How many catnip treats are left? = 63 (U) · There were 130 catnip treats. 19 were used up. How many catnip treats are left? = 111 (O) · Barnaby lined up 8 rows of 5 kelp ribbons. How many kelp ribbons in all? = 40 (L) · Barnaby lined up 10 rows of 2 toy mice. How many toy mice in all? = 20 (N) · Barnaby found 87 catnip treats yesterday and 18 more today. How many catnip treats in all? = 105 (Y) · There were 60 pearl beads. 22 were used up. How many pearl beads are left? = 38 (E)

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

$54 \div 9 = 6$ · $44 \div 11 = 4$ · $132 \div 11 = 12$ · $5 \div 5 = 1$ · $18 \div 9 = 2$ · $50 \div 10 = 5$ · $21 \div 7 = 3$ · $32 \div 4 = 8$ · $99 \div 11 = 9$ · $90 \div 9 = 10$ · $14 \div 2 = 7$