



The Mystery of Mew-lantis

Grade 6 math · Percentages, Exponents, Order of operations, Multiplication, Division · Reading level grades 7-9

Detective: _____ **Date:** _____

The legendary Golden Catfish Crown has been snatched from the Sunken Parlor of Mew-lantis! The ocean current is wild with rumors, and a trail of glowing catnip bubbles points directly to a rogue purrmaid. You must dive deep, analyze the clues, and retrieve the crown before the thief escapes into the Whispering Trench.

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 sea-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	AQUATIC SKILL	INVENTION	OBSERVABLE SIGN	TAIL FIN STYLE	DETERRENT
Marina Claw	sonar purring	laser pointer trident	wears left wrist guard	sleek midnight tail	scent of lemon grass
Nautical	sonar purring	laser pointer trident	wears left wrist guard	sleek midnight tail	high pitch whistle
Salty Paw	bubble clawing	laser pointer trident	wears left wrist guard	sleek midnight tail	bright flashlight glare
Marlina	bubble clawing	laser pointer trident	wears left wrist guard	sleek midnight tail	high pitch whistle
Poseidon Paws	sonar purring	coral scratching post	wears left wrist guard	striped ginger tail	bright flashlight glare
Guppy	current pouncing	silver yarn anchor	wears left wrist guard	striped ginger tail	bright flashlight glare
Triton	bubble clawing	catnip bubble blower	wears left wrist guard	calico dappled tail	high pitch whistle
Angler	sonar purring	catnip bubble blower	wears left wrist guard	calico dappled tail	bright flashlight glare
Sandy Claw	current pouncing	coral scratching post	wears right wrist guard	sleek midnight tail	high pitch whistle
Octavia	current pouncing	coral scratching post	wears left wrist guard	striped ginger tail	scent of lemon grass
Coralia	depth leaping	glowing jellyfish lantern	wears right wrist guard	striped ginger tail	bright flashlight glare
Bubbles	current pouncing	silver yarn anchor	wears left wrist guard	sleek midnight tail	bright flashlight glare
Delphine	bubble clawing	silver yarn anchor	wears right wrist guard	calico dappled tail	bright flashlight glare
Finneas	depth leaping	glowing jellyfish lantern	wears left wrist guard	calico dappled tail	bright flashlight glare
Kelpsey	current pouncing	catnip bubble blower	wears left wrist guard	sleek midnight tail	bright flashlight glare
Captain Claw	current pouncing	coral scratching post	wears right wrist guard	calico dappled tail	high pitch whistle
Sir Purrrval	current pouncing	coral scratching post	wears left wrist guard	calico dappled tail	scent of lemon grass
Clawdia	kelp camouflaging	catnip bubble blower	wears left wrist guard	sleek midnight tail	bright flashlight glare
Barnaby	depth leaping	catnip bubble blower	wears left wrist guard	calico dappled tail	bright flashlight glare
Fisher	current pouncing	laser pointer trident	wears left wrist guard	sleek midnight tail	bright flashlight glare
Seabiscuit	depth leaping	coral scratching post	wears right wrist guard	sleek midnight tail	bright flashlight glare

CLUE 1

To decode the first trace of the burglar, you analyze the royal vault's security log. The log displays the door's remaining seal strength as a percentage of its total power. Calculate the exact remaining power percentage to unlock the file.

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

T 3 3 2 3 2 1 3 3 2 2 3 5 2 1 3 5 T
 42 3 33 2 35 2 1 33 28 42 23 5 33 2 13 5 42
 28 34 4 4 39 34 2 24 31 9 33 4 34 13 28 3 5 4

10% of 420 = $\rightarrow$ **T**

5% of 700 = → **U**

25% of 16 = → **R**

40% of 60 = $\rightarrow$ **I**

20% of 45 = $\rightarrow$ **V**

$$25\% \text{ of } 52 = \boxed{} \rightarrow \boxed{\text{N}}$$

20% of 115 = $\rightarrow$ **D**

60% of 65 = → **Y**

50% of 10 = $\rightarrow$

40% of 5 = → **S**

5% of 560 = $\rightarrow$ **C**

$$5\% \text{ of } 620 = \boxed{} \rightarrow \boxed{\text{L}}$$

5% of 20 = $\rightarrow$ **P**

20% of 15 = $\rightarrow$ **H**

75% of 44 = → **E**

40% of 85 = $\rightarrow$ **A**

Scratch space:

CLUE 2 Exponents

The security alarms inside the coral maze multiply their frequency exponentially at every branch. Solve the exponent equation to determine which level of the maze the suspect triggered during their escape.

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

T																
32	9	196	8	64	81	81	49	64	256	225	196	49	324	216	49	

			T					T					
81	196	144	32	225	324	64	216	32	343	4	49	324	289

$2^5 = \square \rightarrow$ T	$18^2 = \square \rightarrow$ R	$3^4 = \square \rightarrow$ L	$16^2 = \square \rightarrow$ N
$2^3 = \square \rightarrow$ V	$14^2 = \square \rightarrow$ E	$2^2 = \square \rightarrow$ U	$7^3 = \square \rightarrow$ G
$3^2 = \square \rightarrow$ H	$17^2 = \square \rightarrow$ D	$4^3 = \square \rightarrow$ I	$12^2 = \square \rightarrow$ F
$15^2 = \square \rightarrow$ W	$6^3 = \square \rightarrow$ S	$7^2 = \square \rightarrow$ A	

Scratch space:

CLUE 3
Order of operations

The Royal Alchemist must brew a tracking potion using sequences of kelp, sea salt, and crushed pearls. Follow the strict order of operations to balance the formula and reveal the physical evidence left behind.

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

T																			
15	24	46	17	68	80	80	77	68	70	74	80	46	46	20	74	26	49	19	
						T												T	
77	32	26	68	45	24	15	74	80	77	20	24	80	68	45	24	15			

$5 \times 9 - 30 = \square \rightarrow$ T	$21 + 8 \times 3 = \square \rightarrow$ G	$12 \times 9 - 28 = \square \rightarrow$ L
$37 + 3 \times 4 = \square \rightarrow$ O	$5 \times 5 - 1 = \square \rightarrow$ H	$18 + 7 \times 2 = \square \rightarrow$ B
$8 + 6 \times 3 = \square \rightarrow$ R	$8 \times 9 - 26 = \square \rightarrow$ E	$8 + 3 \times 3 = \square \rightarrow$ V
$5 + 9 \times 7 = \square \rightarrow$ I	$4 \times 5 - 1 = \square \rightarrow$ M	$56 + 2 \times 7 = \square \rightarrow$ N
$2 + 6 \times 3 = \square \rightarrow$ S	$12 \times 8 - 22 = \square \rightarrow$ F	$53 + 3 \times 8 = \square \rightarrow$ A

Scratch space:

CLUE 4

Multiplication facts (1-12)

To determine which exit tunnel the suspect used, you map the grid coordinates of the deep-sea trenches. Multiply the rows of trench vents by the columns of active bubbles to find the correct coordinates.

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

T																
11	56	27	84	28	27	18	27	56	120	40	120	84	72	27	27	6
							T	T								
144	12	40	18	12	70	56	11	11	120	12	72	1	12	18		

$1 \times 11 = \square \rightarrow \boxed{\text{T}}$

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

$7 \times 10 = \square \rightarrow \boxed{\text{G}}$

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

$6 \times 12 = \square \rightarrow \boxed{\text{L}}$

$8 \times 7 = \square \rightarrow \boxed{\text{H}}$

$4 \times 10 = \square \rightarrow \boxed{\text{D}}$

$1 \times 1 = \square \rightarrow \boxed{\text{F}}$

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

$6 \times 1 = \square \rightarrow \boxed{\text{K}}$

$6 \times 3 = \square \rightarrow \boxed{\text{N}}$

$1 \times 12 = \square \rightarrow \boxed{\text{I}}$

$12 \times 7 = \square \rightarrow \boxed{\text{S}}$

$10 \times 12 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

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

A school of helpful neon tetras witnessed the burglar's getaway, but they will only talk if you divide their school evenly into sanctuary nets. Use division to distribute the fish and hear their final testimony.

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:

$132 \div 12 = \boxed{}$

$12 \div 6 = \boxed{}$

$55 \div 11 = \boxed{}$

$36 \div 3 = \boxed{}$

$80 \div 10 = \boxed{}$

$48 \div 12 = \boxed{}$

$36 \div 12 = \boxed{}$

$3 \div 3 = \boxed{}$

$80 \div 8 = \boxed{}$

$72 \div 12 = \boxed{}$

$21 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blends in with kelp camouflage, then claws at a coral scratching post.
2. The villain pounces through the ocean current, then fires a catnip bubble blower.
3. The villain leaps across the deep coral trench, then claws at a coral scratching post.
4. The villain leaps across the deep coral trench, then waves a glowing jellyfish lantern.
5. The villain claws open a giant air bubble, then shines a laser pointer trident.
6. The villain uses sonar purring to distract the guards, then fires a catnip bubble blower.
7. The villain leaps across the deep coral trench, then fires a catnip bubble blower.
8. The villain leaps across the deep coral trench, then tosses a silver yarn anchor.
9. The villain pounces through the ocean current, then shines a laser pointer trident.
10. The villain pounces through the ocean current, then claws at a coral scratching post.
11. The villain blends in with kelp camouflage, then fires a catnip bubble blower.
12. The villain uses sonar purring to distract the guards, then tosses a silver yarn anchor.

Answer Key

The Mystery of Mew-lantis

Culprit: Fisher

current pouncing · laser pointer trident · wears left wrist guard · sleek midnight tail · bright flashlight glare

Trail: Start 21 → Clue 1 18 → Clue 2 14 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Percentages): "THE SUSPECT DOES NOT CARRY A SILVER ANCHOR"

10% of 420 = 42 (T) · 5% of 700 = 35 (U) · 25% of 16 = 4 (R) · 40% of 60 = 24 (I) · 20% of 45 = 9 (V) · 25% of 52 = 13 (N) · 20% of 115 = 23 (D) · 60% of 65 = 39 (Y) · 50% of 10 = 5 (O) · 40% of 5 = 2 (S) · 5% of 560 = 28 (C) · 5% of 620 = 31 (L) · 5% of 20 = 1 (P) · 20% of 15 = 3 (H) · 75% of 44 = 33 (E) · 40% of 85 = 34 (A)

Clue 2 (Exponents): "THE VILLAIN WEARS A LEFT WRIST GUARD"

$2^5 = 32$ (T) · $18^2 = 324$ (R) · $3^4 = 81$ (L) · $16^2 = 256$ (N) · $2^3 = 8$ (V) · $14^2 = 196$ (E) · $2^2 = 4$ (U) · $7^3 = 343$ (G) · $3^2 = 9$ (H) · $17^2 = 289$ (D) · $4^3 = 64$ (I) · $12^2 = 144$ (F) · $15^2 = 225$ (W) · $6^3 = 216$ (S) · $7^2 = 49$ (A)

Clue 3 (Order of operations): "THE VILLAIN FLEES FROM A BRIGHT FLASHLIGHT"

$5 \times 9 - 30 = 15$ (T) · $21 + 8 \times 3 = 45$ (G) · $12 \times 9 - 28 = 80$ (L) · $37 + 3 \times 4 = 49$ (O) · $5 \times 5 - 1 = 24$ (H) · $18 + 7 \times 2 = 32$ (B) · $8 + 6 \times 3 = 26$ (R) · $8 \times 9 - 26 = 46$ (E) · $8 + 3 \times 3 = 17$ (V) · $5 + 9 \times 7 = 68$ (I) · $4 \times 5 - 1 = 19$ (M) · $56 + 2 \times 7 = 70$ (N) · $2 + 6 \times 3 = 20$ (S) · $12 \times 8 - 22 = 74$ (F) · $53 + 3 \times 8 = 77$ (A)

Clue 4 (Multiplication facts (1-12)): "THE SCENE HAD A SLEEK MIDNIGHT TAIL FIN"

$1 \times 11 = 11$ (T) · $3 \times 9 = 27$ (E) · $7 \times 10 = 70$ (G) · $7 \times 4 = 28$ (C) · $6 \times 12 = 72$ (L) · $8 \times 7 = 56$ (H) · $4 \times 10 = 40$ (D) · $1 \times 1 = 1$ (F) · $12 \times 12 = 144$ (M) · $6 \times 1 = 6$ (K) · $6 \times 3 = 18$ (N) · $1 \times 12 = 12$ (I) · $12 \times 7 = 84$ (S) · $10 \times 12 = 120$ (A)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Fisher

$132 \div 12 = 11$ · $12 \div 6 = 2$ · $55 \div 11 = 5$ · $36 \div 3 = 12$ · $80 \div 10 = 8$ · $48 \div 12 = 4$ · $36 \div 12 = 3$ · $3 \div 3 = 1$ · $80 \div 8 = 10$ · $72 \div 12 = 6$ · $21 \div 3 = 7$