



The Mystery of the Neptune Pearl

Grade 6 math · Addition, Subtraction, Percentages, Exponents, Division · Reading level grades 5-6

Detective: _____ Date: _____

When the shimmering Neptune Pearl vanished from the royal vault, the underwater kingdom fell into chaotic currents. Detective Mer-Sleuth must decode the clues to catch the villain.

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 Pearl Thief is _____

Possible suspects

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

NAME	PRIMARY ABILITY	SPECIAL TRAIT	ARMBAND SIDE	HAIR COLOR	VULNERABILITY
Cascade	tide surge	animal talk	wears left armband	deep violet	bright flash
Marlina	bubble shield	bioluminescence	wears left armband	deep violet	tickle kelp
Oceanus	bubble shield	siren song	wears right armband	neon coral	loud whistles
Orion	water blast	animal talk	wears right armband	emerald green	loud whistles
Coral	water blast	siren song	wears left armband	neon coral	bright flash
Marina	current dash	siren song	wears right armband	deep violet	tickle kelp
Nerina	water blast	shell armor	wears right armband	deep violet	tickle kelp
Coralline	bubble shield	deep vision	wears right armband	emerald green	tickle kelp
Delphine	current dash	shell armor	wears left armband	neon coral	bright flash
Tide	current dash	bioluminescence	wears left armband	neon coral	tickle kelp
Kai	water blast	siren song	wears right armband	deep violet	tickle kelp
Alana	kelp whip	bioluminescence	wears left armband	emerald green	tickle kelp
Finley	water blast	shell armor	wears left armband	emerald green	tickle kelp
Shelly	current dash	shell armor	wears right armband	deep violet	tickle kelp
Adella	current dash	bioluminescence	wears right armband	deep violet	tickle kelp
Caspian	tide surge	bioluminescence	wears right armband	neon coral	tickle kelp
Pearl	water blast	deep vision	wears right armband	deep violet	tickle kelp
Ariel	water blast	bioluminescence	wears left armband	deep violet	bright flash
Aquata	water blast	siren song	wears right armband	emerald green	bright flash
Andrina	kelp whip	animal talk	wears right armband	deep violet	bright flash
Triton	current dash	shell armor	wears right armband	deep violet	bright flash

CLUE 1 Addition

Guard Finley tallied the pearl fragments left along two trenches to find the total combined weight.

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

T								T								T
6999	3895	6722	5506	8562	5506	9556	6722	4078	6999	7253	5359	6722	5506	4071	5359	6999

8562	5506	6722	5506	4603	2672	6722	4071	5506	5359

3434 + 3565 = → T	3465 + 3788 = → D	2027 + 2051 = → C
4037 + 5519 = → P	2336 + 4386 = → E	2676 + 2830 = → S
2713 + 2646 = → O	4376 + 4186 = → U	1180 + 1492 = → R
2250 + 2353 = → I	2604 + 1291 = → H	5829 + 3231 = → G
1610 + 2461 = → N		

Scratch space:

CLUE 2

Subtraction

Guard Marina measured the vault water level before and after the drain trap was triggered to find the missing depth.

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

W									W									
1254	4424	6911	1827	4484	1096	1096	1096	5904	1254	5904	1827	5904	3848	5562	8903	5904	1827	3097
5012	1827	6911	7842	4484	3848	4424	8908	7842	6911	5904	3848	5562						

$$4651 - 3397 = \square \rightarrow \boxed{W}$$

$$10393 - 3482 = \square \rightarrow \boxed{T}$$

$$5087 - 75 = \square \rightarrow \boxed{O}$$

$$6191 - 3094 = \square \rightarrow \boxed{D}$$

$$6922 - 2438 = \square \rightarrow \boxed{E}$$

$$7951 - 3527 = \square \rightarrow \boxed{I}$$

$$6888 - 984 = \square \rightarrow \boxed{A}$$

$$6938 - 1376 = \square \rightarrow \boxed{M}$$

$$5492 - 1644 = \square \rightarrow \boxed{R}$$

$$9555 - 1713 = \square \rightarrow \boxed{H}$$

$$2543 - 1447 = \square \rightarrow \boxed{S}$$

$$10485 - 1577 = \square \rightarrow \boxed{G}$$

$$9885 - 982 = \square \rightarrow \boxed{B}$$

$$4685 - 2858 = \square \rightarrow \boxed{N}$$

Scratch space:

CLUE 3

Royal Scout Caspian calculated what percentage of the palace guard was alert during the night patrol.

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

9 35 6 37 31 26 37 26 31 13 30 5 18 14 18 26 39 9 12

39 42 35 28 26 9 25 26 7 12 3 3

5% of 180 = → **T**

10% of 390 = $\rightarrow$ **D**

10% of 180 = $\rightarrow$ **S**

50% of 26 = $\rightarrow$ **P**

25% of 124 = $\rightarrow$ **L**

50% of 52 = $\rightarrow$ **E**

50% of 50 = → **H**

20% of 185 = $\rightarrow$ **K**

75% of 8 = $\rightarrow$ **C**

20% of 175 = $\rightarrow$

50% of 60 = $\rightarrow$ **W**

5% of 60 = → **F**

25% of 56 = $\rightarrow$ **U**

5% of 240 = →

5% of 140 = → **M**

75% of 56 = → **R**

50% of 10 = $\rightarrow$ **A**

10% of 280 = $\rightarrow$ **V**

Scratch space:

CLUE 4 Exponents

Archivist Nerina tracked how fast the glowing plankton population multiplied by squared powers each hour.

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

D																			
128	196	196	16	216	9	324	8	196	100	169	49	9	256	4	343	196	256	196	
							D												
100	256	49	16	16	196	128	9	125	256	324	81	400							

$2^7 = \square \rightarrow$ D	$3^4 = \square \rightarrow$ C	$3^2 = \square \rightarrow$ I	$6^3 = \square \rightarrow$ V
$16^2 = \square \rightarrow$ R	$7^3 = \square \rightarrow$ W	$13^2 = \square \rightarrow$ H	$5^3 = \square \rightarrow$ N
$7^2 = \square \rightarrow$ A	$10^2 = \square \rightarrow$ T	$20^2 = \square \rightarrow$ K	$2^2 = \square \rightarrow$ S
$14^2 = \square \rightarrow$ E	$18^2 = \square \rightarrow$ O	$4^2 = \square \rightarrow$ P	$2^3 = \square \rightarrow$ L

Scratch space:

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

Captain Triton divided the recovered treasure coins equally among the patrolling mermaid squadrons.

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:

$77 \div 11 = \boxed{}$

$36 \div 3 = \boxed{}$

$66 \div 6 = \boxed{}$

$24 \div 12 = \boxed{}$

$10 \div 1 = \boxed{}$

$8 \div 2 = \boxed{}$

$96 \div 12 = \boxed{}$

$54 \div 6 = \boxed{}$

$36 \div 6 = \boxed{}$

$3 \div 3 = \boxed{}$

$21 \div 7 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain lashes kelp whips, then speaks with sea animals.
2. The villain summons tide surges, then sings enchanting tunes.
3. The villain creates bubble shields, then speaks with sea animals.
4. The villain blasts swirling water, then speaks with sea animals.
5. The villain blasts swirling water, then hardens shell armor.
6. The villain summons tide surges, then hardens shell armor.
7. The villain blasts swirling water, then peers through deep darkness.
8. The villain creates bubble shields, then glows with bioluminescence.
9. The villain creates bubble shields, then peers through deep darkness.
10. The villain lashes kelp whips, then sings enchanting tunes.
11. The villain dashes through currents, then glows with bioluminescence.
12. The villain dashes through currents, then hardens shell armor.

Answer Key

The Mystery of the Neptune Pearl

Culprit: Nerina

water blast · shell armor · wears right armband · deep violet · tickle kelp

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SUSPECT DOES NOT USE SIREN SONG"

$3434 + 3565 = 6999$ (T) · $3465 + 3788 = 7253$ (D) · $2027 + 2051 = 4078$ (C) · $4037 + 5519 = 9556$ (P) · $2336 + 4386 = 6722$ (E) · $2676 + 2830 = 5506$ (S) · $2713 + 2646 = 5359$ (O) · $4376 + 4186 = 8562$ (U) · $1180 + 1492 = 2672$ (R) · $2250 + 2353 = 4603$ (I) · $2604 + 1291 = 3895$ (H) · $5829 + 3231 = 9060$ (G) · $1610 + 2461 = 4071$ (N)

Clue 2 (Subtraction): "WITNESS SAW AN ARMBAND ON THE RIGHT ARM"

$4651 - 3397 = 1254$ (W) · $10393 - 3482 = 6911$ (T) · $5087 - 75 = 5012$ (O) · $6191 - 3094 = 3097$ (D) · $6922 - 2438 = 4484$ (E) · $7951 - 3527 = 4424$ (I) · $6888 - 984 = 5904$ (A) · $6938 - 1376 = 5562$ (M) · $5492 - 1644 = 3848$ (R) · $9555 - 1713 = 7842$ (H) · $2543 - 1447 = 1096$ (S) · $10485 - 1577 = 8908$ (G) · $9885 - 982 = 8903$ (B) · $4685 - 2858 = 1827$ (N)

Clue 3 (Percentages): "TICKLE KELP WAS USED TO DRIVE THEM OFF"

5% of 180 = 9 (T) · 10% of 390 = 39 (D) · 10% of 180 = 18 (S) · 50% of 26 = 13 (P) · 25% of 124 = 31 (L) · 50% of 52 = 26 (E) · 50% of 50 = 25 (H) · 20% of 185 = 37 (K) · 75% of 8 = 6 (C) · 20% of 175 = 35 (I) · 50% of 60 = 30 (W) · 5% of 60 = 3 (F) · 25% of 56 = 14 (U) · 5% of 240 = 12 (O) · 5% of 140 = 7 (M) · 75% of 56 = 42 (R) · 50% of 10 = 5 (A) · 10% of 280 = 28 (V)

Clue 4 (Exponents): "DEEP VIOLET HAIRS WERE TRAPPED IN ROCK"

$2^7 = 128$ (D) · $3^4 = 81$ (C) · $3^2 = 9$ (I) · $6^3 = 216$ (V) · $16^2 = 256$ (R) · $7^3 = 343$ (W) · $13^2 = 169$ (H) · $5^3 = 125$ (N) · $7^2 = 49$ (A) · $10^2 = 100$ (T) · $20^2 = 400$ (K) · $2^2 = 4$ (S) · $14^2 = 196$ (E) · $18^2 = 324$ (O) · $4^2 = 16$ (P) · $2^3 = 8$ (L)

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

$77 \div 11 = 7$ · $36 \div 3 = 12$ · $66 \div 6 = 11$ · $24 \div 12 = 2$ · $10 \div 1 = 10$ · $8 \div 2 = 4$ · $96 \div 12 = 8$ · $54 \div 6 = 9$ · $36 \div 6 = 6$ · $3 \div 3 = 1$ · $21 \div 7 = 3$