



The Mystery of the Coral Kingdom Pearl

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

The legendary Heart of the Sea Pearl has been stolen from the Coral Altar! Witnesses saw a mysterious figure flee toward the forest. Both mermaids and unicorns are suspects, and it is up to the Glitter Patrol to solve the case.

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 Raider is _____

Possible suspects

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

NAME	SIGNATURE SPELL	ENCHANTED GEAR	SWIM PATTERN	MANE TEXTURE	MAGIC BARRIER
Stormy	Coral Shield	Shell Necklace	Leans Right	Seaweed Braids	Sweet Clover
Silvermane	Sparkle Spark	Kelpfrost Ring	Leans Right	Glitter Strands	Sunlight
Triton	Coral Shield	Starfish Wand	Leans Right	Starfish Clips	Sweet Clover
Starlight	Rainbow Dash	Kelpfrost Ring	Leans Right	Seaweed Braids	Sweet Clover
Celestia	Rainbow Dash	Pearl Tiara	Leans Right	Seaweed Braids	Sweet Clover
Delphine	Coral Shield	Pearl Tiara	Leans Left	Starfish Clips	Sunlight
Aqua	Tidal Wave	Pearl Tiara	Leans Right	Starfish Clips	Deep Trench
Coralia	Rainbow Dash	Shell Necklace	Leans Right	Seaweed Braids	Sweet Clover
Marina	Sparkle Spark	Starfish Wand	Leans Right	Seaweed Braids	Sweet Clover
Pearl	Coral Shield	Starfish Wand	Leans Right	Glitter Strands	Sweet Clover
Oceanus	Tidal Wave	Pearl Tiara	Leans Left	Glitter Strands	Sunlight
Glitterhoof	Sparkle Spark	Pearl Tiara	Leans Right	Starfish Clips	Deep Trench
Waveweaver	Sparkle Spark	Pearl Tiara	Leans Left	Seaweed Braids	Sunlight
Skye	Tidal Wave	Shell Necklace	Leans Left	Starfish Clips	Sunlight
Jewel	Coral Shield	Starfish Wand	Leans Left	Glitter Strands	Deep Trench
Melody	Sparkle Spark	Kelpfrost Ring	Leans Right	Seaweed Braids	Deep Trench
Splash	Bubble Beam	Kelpfrost Ring	Leans Left	Seaweed Braids	Sunlight
Starshine	Rainbow Dash	Shell Necklace	Leans Right	Starfish Clips	Deep Trench
Ariel	Rainbow Dash	Kelpfrost Ring	Leans Right	Glitter Strands	Deep Trench
Finley	Bubble Beam	Golden Bridle	Leans Right	Seaweed Braids	Sunlight
Neptune	Coral Shield	Starfish Wand	Leans Left	Seaweed Braids	Sweet Clover

CLUE 1

Fractions of a number

The Reef Guardians counted their stored glow-shells. They need to find what fraction of the shells are still shining to activate the tracking map.

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

T 15	23	18	T 15	23	11	18	12	38	25	18	31	9	25	T 15	10	18	2	21
T 15	23	18	29	18	2	21	33	T 15	11	2	21	2						

$5/10 \text{ of } 30 = \square \rightarrow \text{T}$

$2/10 \text{ of } 145 = \square \rightarrow \text{P}$

$6/10 \text{ of } 35 = \square \rightarrow \text{R}$

$2/4 \text{ of } 76 = \square \rightarrow \text{D}$

$3/6 \text{ of } 36 = \square \rightarrow \text{E}$

$2/4 \text{ of } 62 = \square \rightarrow \text{S}$

$1/8 \text{ of } 80 = \square \rightarrow \text{W}$

$1/5 \text{ of } 115 = \square \rightarrow \text{H}$

$4/8 \text{ of } 66 = \square \rightarrow \text{L}$

$3/8 \text{ of } 32 = \square \rightarrow \text{F}$

$2/10 \text{ of } 10 = \square \rightarrow \text{A}$

$1/2 \text{ of } 18 = \square \rightarrow \text{N}$

$4/8 \text{ of } 50 = \square \rightarrow \text{O}$

$5/10 \text{ of } 22 = \square \rightarrow \text{I}$

Scratch space:

CLUE 2
Order of operations

To unlock the sea-chest containing the first clue, we must solve the sequence of bubble-math steps in the correct order.

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

T																		
79	11	57	47	71	47	40	57	75	79	21	55	68	21	62	47			
					T						T					T		
47	68	67	49	47	79	27	68	21	9	73	79	11	57	9	67	23	11	79

$9 \times 11 - 20 = \square \rightarrow$ T	$8 \times 6 - 1 = \square \rightarrow$ S	$3 \times 12 - 25 = \square \rightarrow$ H
$11 \times 8 - 15 = \square \rightarrow$ D	$5 + 6 \times 3 = \square \rightarrow$ G	$44 + 3 \times 6 = \square \rightarrow$ Y
$11 \times 8 - 17 = \square \rightarrow$ U	$10 \times 7 - 3 = \square \rightarrow$ I	$10 \times 5 - 29 = \square \rightarrow$ A
$25 + 5 \times 3 = \square \rightarrow$ P	$9 \times 3 - 18 = \square \rightarrow$ R	$9 + 2 \times 9 = \square \rightarrow$ O
$10 \times 5 - 1 = \square \rightarrow$ M	$9 \times 7 - 8 = \square \rightarrow$ L	$12 \times 7 - 27 = \square \rightarrow$ E
$27 + 6 \times 8 = \square \rightarrow$ C	$10 \times 8 - 12 = \square \rightarrow$ W	

Scratch space:

CLUE 3
Multiplication facts (1-12)

The kelp forest is planted in equal rows. Counting the total plants will help us map the thief's escape path.

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

T													
70	81	44	44	48	44	11	28	10	5	63	44	121	12

						T					T					
121	16	121	10	48	5	70	5	63	44	44	70	50	99	15	22	44

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

$5 \times 2 = \square \rightarrow \boxed{\text{I}}$

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

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

$5 \times 1 = \square \rightarrow \boxed{\text{S}}$

$3 \times 5 = \square \rightarrow \boxed{\text{O}}$

$6 \times 8 = \square \rightarrow \boxed{\text{N}}$

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

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

$9 \times 11 = \square \rightarrow \boxed{\text{L}}$

$11 \times 11 = \square \rightarrow \boxed{\text{A}}$

$9 \times 9 = \square \rightarrow \boxed{\text{H}}$

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

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

$4 \times 11 = \square \rightarrow \boxed{\text{E}}$

$9 \times 8 = \square \rightarrow \boxed{\text{R}}$

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

Scratch space:

CLUE 4

Rounding

Our sea-sonar isn't perfectly precise. It rounds the distance of the suspect's magical trail to the nearest ten leagues.

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

W																			
2300	130	7000	290	110	90	170	1300	50	130	130	90	1700	130	500	W	130	130	170	
1100	50	500	230	170	1700														

Round 2,294 to the nearest hundred → **W**

Round 126 to the nearest ten → **E**

Round 502 to the nearest hundred → **A**

Round 231 to the nearest ten → **I**

Round 7,217 to the nearest thousand → **F**

Round 1,327 to the nearest hundred → **G**

Round 1,727 to the nearest hundred → **S**

Round 1,056 to the nearest hundred → **B**

Round 93 to the nearest ten → **N**

Round 166 to the nearest ten → **D**

Round 47 to the nearest ten → **R**

Round 287 to the nearest ten → **O**

Round 109 to the nearest ten → **U**

Scratch space:

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

The mermaids need to divide their speed-potions equally among the search teams before they set off.

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:

$96 \div 8 = \boxed{}$

$108 \div 12 = \boxed{}$

$55 \div 11 = \boxed{}$

$2 \div 1 = \boxed{}$

$70 \div 7 = \boxed{}$

$40 \div 5 = \boxed{}$

$99 \div 9 = \boxed{}$

$28 \div 4 = \boxed{}$

$3 \div 1 = \boxed{}$

$48 \div 12 = \boxed{}$

$30 \div 5 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain summons a blinding flash of light, then leaps over the coral reef.
2. The villain conjures a wall of sharp coral, then vanishes in a cloud of bubbles.
3. The villain creates a massive whirlpool, then gallops away into the deep forest.
4. The villain conjures a wall of sharp coral, then gallops away into the deep forest.
5. The villain kicks up a blinding sandstorm, then gallops away into the deep forest.
6. The villain shoots a stream of hot steam, then gallops away into the deep forest.
7. The villain creates a massive whirlpool, then vanishes in a cloud of bubbles.
8. The villain kicks up a blinding sandstorm, then leaps over the coral reef.
9. The villain summons a blinding flash of light, then gallops away into the deep forest.
10. The villain shoots a stream of hot steam, then disappears into a deep trench.
11. The villain summons a blinding flash of light, then vanishes in a cloud of bubbles.
12. The villain shoots a stream of hot steam, then vanishes in a cloud of bubbles.

Answer Key

The Mystery of the Coral Kingdom Pearl

Culprit: Starlight

Rainbow Dash · Kelpfrost Ring · Leans Right · Seaweed Braids · Sweet Clover

Trail: Start 21 → Clue 1 15 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE THIEF DOES NOT WEAR THE PEARL TIARA"

$5/10$ of 30 = 15 (T) · $2/10$ of 145 = 29 (P) · $6/10$ of 35 = 21 (R) · $2/4$ of 76 = 38 (D) · $3/6$ of 36 = 18 (E) · $2/4$ of 62 = 31 (S) · $1/8$ of 80 = 10 (W) · $1/5$ of 115 = 23 (H) · $4/8$ of 66 = 33 (L) · $3/8$ of 32 = 12 (F) · $2/10$ of 10 = 2 (A) · $1/2$ of 18 = 9 (N) · $4/8$ of 50 = 25 (O) · $5/10$ of 22 = 11 (I)

Clue 2 (Order of operations): "THE SUSPECT ALWAYS SWIMS TOWARD THE RIGHT"

$9 \times 11 - 20 = 79$ (T) · $8 \times 6 - 1 = 47$ (S) · $3 \times 12 - 25 = 11$ (H) · $11 \times 8 - 15 = 73$ (D) · $5 + 6 \times 3 = 23$ (G) · $44 + 3 \times 6 = 62$ (Y) · $11 \times 8 - 17 = 71$ (U) · $10 \times 7 - 3 = 67$ (I) · $10 \times 5 - 29 = 21$ (A) · $25 + 5 \times 3 = 40$ (P) · $9 \times 3 - 18 = 9$ (R) · $9 + 2 \times 9 = 27$ (O) · $10 \times 5 - 1 = 49$ (M) · $9 \times 7 - 8 = 55$ (L) · $12 \times 7 - 27 = 57$ (E) · $27 + 6 \times 8 = 75$ (C) · $10 \times 8 - 12 = 68$ (W)

Clue 3 (Multiplication facts (1-12)): "THE ENEMY IS WEAK AGAINST SWEET CLOVER"

$7 \times 10 = 70$ (T) · $5 \times 2 = 10$ (I) · $2 \times 8 = 16$ (G) · $7 \times 9 = 63$ (W) · $5 \times 1 = 5$ (S) · $3 \times 5 = 15$ (O) · $6 \times 8 = 48$ (N) · $11 \times 2 = 22$ (V) · $10 \times 5 = 50$ (C) · $9 \times 11 = 99$ (L) · $11 \times 11 = 121$ (A) · $9 \times 9 = 81$ (H) · $4 \times 7 = 28$ (Y) · $1 \times 11 = 11$ (M) · $4 \times 11 = 44$ (E) · $9 \times 8 = 72$ (R) · $12 \times 1 = 12$ (K)

Clue 4 (Rounding): "WE FOUND GREEN SEAWEEED BRAIDS"

Round 2,294 to the nearest hundred = 2300 (W) · Round 126 to the nearest ten = 130 (E) · Round 502 to the nearest hundred = 500 (A) · Round 231 to the nearest ten = 230 (I) · Round 7,217 to the nearest thousand = 7000 (F) · Round 1,327 to the nearest hundred = 1300 (G) · Round 1,727 to the nearest hundred = 1700 (S) · Round 1,056 to the nearest hundred = 1100 (B) · Round 93 to the nearest ten = 90 (N) · Round 166 to the nearest ten = 170 (D) · Round 47 to the nearest ten = 50 (R) · Round 287 to the nearest ten = 290 (O) · Round 109 to the nearest ten = 110 (U)

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

$96 \div 8 = 12$ · $108 \div 12 = 9$ · $55 \div 11 = 5$ · $2 \div 1 = 2$ · $70 \div 7 = 10$ · $40 \div 5 = 8$ · $99 \div 9 = 11$ · $28 \div 4 = 7$ · $3 \div 1 = 3$ · $48 \div 12 = 4$ · $30 \div 5 = 6$