



# The Coral Crown Caper

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

**Detective:** \_\_\_\_\_ **Date:** \_\_\_\_\_

The legendary sea-glass crown has been stolen from the Mermaid Queen's coral throne! A mysterious rogue has slipped away into the reef. We must gather evidence and narrow down the suspects before they escape the Lagoon of Whispers forever.

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 is** \_\_\_\_\_

## Possible suspects

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

| NAME        | PRIMARY SKILL  | SPECIAL GEAR   | OBSERVED HABIT | SEA HAIR COLOR | VULNERABILITY   |
|-------------|----------------|----------------|----------------|----------------|-----------------|
| Marina      | Cannon Firing  | Spyglass Map   | Left handed    | Coral Pink     | Shiny Mirrors   |
| Nautilus    | Cannon Firing  | Steel Cutlass  | Left handed    | Barnacle Gray  | Shiny Mirrors   |
| Redbeard    | Ship Steering  | Spyglass Map   | Left handed    | Barnacle Gray  | Bright Sunlight |
| Drake       | Cannon Firing  | Steel Cutlass  | Left handed    | Seaweed Green  | Shiny Mirrors   |
| Nerida      | Cannon Firing  | Spyglass Map   | Right handed   | Seaweed Green  | Shiny Mirrors   |
| Wave        | Cannon Firing  | Spyglass Map   | Left handed    | Barnacle Gray  | Shiny Mirrors   |
| Adella      | Ship Steering  | Steel Cutlass  | Right handed   | Barnacle Gray  | Bright Sunlight |
| Gulliver    | Sword Fighting | Shell Harp     | Left handed    | Seaweed Green  | Shiny Mirrors   |
| Barnaby     | Cannon Firing  | Golden Compass | Left handed    | Seaweed Green  | Shiny Mirrors   |
| Pearl       | Ship Steering  | Spyglass Map   | Left handed    | Seaweed Green  | Shiny Mirrors   |
| Calypso     | Cannon Firing  | Pearl Trident  | Right handed   | Seaweed Green  | Loud Singing    |
| Pegleg Pete | Coral Magic    | Golden Compass | Left handed    | Coral Pink     | Bright Sunlight |
| Kelp        | Sword Fighting | Golden Compass | Right handed   | Coral Pink     | Bright Sunlight |
| Sirena      | Ship Steering  | Shell Harp     | Left handed    | Coral Pink     | Bright Sunlight |
| Morgan      | Swift Swimming | Spyglass Map   | Left handed    | Coral Pink     | Loud Singing    |
| Triton      | Coral Magic    | Pearl Trident  | Right handed   | Barnacle Gray  | Bright Sunlight |
| Blackbeard  | Coral Magic    | Pearl Trident  | Left handed    | Seaweed Green  | Shiny Mirrors   |
| Mary Read   | Coral Magic    | Steel Cutlass  | Right handed   | Barnacle Gray  | Bright Sunlight |
| Shelly      | Sword Fighting | Golden Compass | Left handed    | Seaweed Green  | Bright Sunlight |
| Salty Sue   | Ship Steering  | Spyglass Map   | Left handed    | Coral Pink     | Bright Sunlight |
| Coralia     | Coral Magic    | Golden Compass | Right handed   | Seaweed Green  | Shiny Mirrors   |

**CLUE 1**
**Multiplication facts (1-12)**

The Quartermaster needs to count the gunpowder barrels stacked in equal rows in the cargo hold. Find the total amount to unlock the first clue.

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

|          |    |    |          |    |    |    |    |    |     |    |    |    |     |          |
|----------|----|----|----------|----|----|----|----|----|-----|----|----|----|-----|----------|
| <b>T</b> |    |    | <b>T</b> |    |    |    |    |    |     |    |    |    |     | <b>T</b> |
| 16       | 77 | 22 | 16       | 77 | 33 | 22 | 27 | 84 | 121 | 22 | 81 | 6  | 121 | 16       |
|          |    |    |          |    |    |    |    |    |     |    |    |    |     |          |
| 35       | 48 | 18 | 18       | 42 | 48 | 81 | 77 | 22 | 25  | 25 | 77 | 48 | 18  | 32       |

|                                              |                                               |                                              |
|----------------------------------------------|-----------------------------------------------|----------------------------------------------|
| $8 \times 2 = \square \rightarrow$ <b>T</b>  | $11 \times 11 = \square \rightarrow$ <b>O</b> | $7 \times 11 = \square \rightarrow$ <b>H</b> |
| $7 \times 5 = \square \rightarrow$ <b>C</b>  | $11 \times 3 = \square \rightarrow$ <b>I</b>  | $9 \times 3 = \square \rightarrow$ <b>F</b>  |
| $11 \times 2 = \square \rightarrow$ <b>E</b> | $4 \times 8 = \square \rightarrow$ <b>P</b>   | $7 \times 6 = \square \rightarrow$ <b>Y</b>  |
| $12 \times 4 = \square \rightarrow$ <b>A</b> | $5 \times 5 = \square \rightarrow$ <b>L</b>   | $9 \times 9 = \square \rightarrow$ <b>S</b>  |
| $12 \times 7 = \square \rightarrow$ <b>D</b> | $6 \times 1 = \square \rightarrow$ <b>N</b>   | $6 \times 3 = \square \rightarrow$ <b>R</b>  |

Scratch space:

## CLUE 2 Fractions of a number

A mermaid pod shares a basket of glowing pearls. We must calculate the exact fraction they took to reveal the suspect's trail.

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

A 2x10 grid of boxes. The top row contains the following sequence: an orange box with 'T', three empty boxes, an orange box with 'T', and seven empty boxes. The bottom row contains the following sequence: three empty boxes, two orange boxes with 'T', one empty box, one orange box with 'T', and six empty boxes.

|    |   |    |    |    |    |    |    |    |    |    |    |  |    |    |    |    |    |    |    |    |  |
|----|---|----|----|----|----|----|----|----|----|----|----|--|----|----|----|----|----|----|----|----|--|
| T  |   |    |    |    |    |    |    |    |    |    |    |  |    |    |    |    |    |    |    |    |  |
| 35 | 2 | 13 |    | 19 | 33 | 7  | 23 | 14 | 27 | 13 | 5  |  | 30 | 10 | 35 | 13 |    | 14 | 23 | 19 |  |
|    |   |    | T  | T  |    |    |    |    |    |    | T  |  |    |    |    |    |    |    |    |    |  |
| 14 | 7 | 15 | 35 | 35 | 13 | 30 |    | 27 | 13 | 29 | 35 |  | 2  | 23 | 30 | 5  | 13 |    |    |    |  |

$$2/10 \text{ of } 175 = \boxed{\phantom{000}} \rightarrow \boxed{\text{T}}$$

5/10 of 46 =  → **A**

9/10 of 30 =   $\rightarrow$  **L**

$\frac{1}{4}$  of 20 =   $\rightarrow$  **D**

$$\frac{1}{5} \text{ of } 150 = \boxed{\phantom{000}} \rightarrow \boxed{\text{N}}$$

$3/6$  of  $66 = \boxed{\phantom{00}} \rightarrow \boxed{\text{C}}$

$4/8$  of  $4 = \boxed{\phantom{000}} \rightarrow \boxed{\text{H}}$

5/10 of 26 =  → **E**

$$2/3 \text{ of } 21 = \boxed{\phantom{00}} \rightarrow \boxed{\text{W}}$$

$$2/4 \text{ of } 30 = \boxed{\phantom{00}} \rightarrow \boxed{\text{I}}$$

$2/8$  of 40 =   $\rightarrow$  ☒

$1/6$  of 174 =   $\rightarrow$  **F**

$$2/6 \text{ of } 57 = \boxed{\phantom{00}} \rightarrow \boxed{\text{S}}$$

$$1/10 \text{ of } 70 = \boxed{\phantom{00}} \rightarrow \boxed{\text{R}}$$

Scratch space:

**CLUE 3**
**Order of operations**

An old pirate chest has a combination lock. We have to solve the steps in the exact order of operations to crack the code.

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

|    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |   |    |
|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|---|----|
| T  |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |   |    |
| 29 | 16 | 77 | 9  | 27 | 77 | 76 | 32 | 13 | 77 | 78 | 6 | 34 | 33 | 77 | 11 | 47 | 13 | 6 | 75 |
|    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |   |    |
| 9  | 16 | 34 | 27 | 7  | 75 | 34 | 13 | 13 | 6  | 13 | 9 |    |    |    |    |    |    |   |    |

$17 + 4 \times 3 = \square \rightarrow \text{[T]}$

$1 + 2 \times 3 = \square \rightarrow \text{[Y]}$

$8 \times 3 - 8 = \square \rightarrow \text{[H]}$

$39 + 2 \times 4 = \square \rightarrow \text{[F]}$

$12 \times 7 - 9 = \square \rightarrow \text{[M]}$

$8 \times 5 - 13 = \square \rightarrow \text{[N]}$

$2 + 3 \times 3 = \square \rightarrow \text{[D]}$

$3 + 6 \times 5 = \square \rightarrow \text{[L]}$

$2 \times 10 - 7 = \square \rightarrow \text{[R]}$

$12 \times 7 - 7 = \square \rightarrow \text{[E]}$

$12 \times 7 - 8 = \square \rightarrow \text{[A]}$

$8 \times 8 - 30 = \square \rightarrow \text{[I]}$

$10 \times 8 - 2 = \square \rightarrow \text{[C]}$

$3 \times 7 - 12 = \square \rightarrow \text{[S]}$

$4 \times 9 - 4 = \square \rightarrow \text{[K]}$

$2 + 2 \times 2 = \square \rightarrow \text{[O]}$

Scratch space:

## CLUE 4

## Rounding

The ship's navigator can only read the blurry numbers on this ancient map by rounding them to the nearest ten.

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

|          |    |      |          |    |      |     |     |      |      |      |      |     |      |      |      |
|----------|----|------|----------|----|------|-----|-----|------|------|------|------|-----|------|------|------|
| <b>W</b> |    |      |          |    |      |     |     |      |      |      |      |     |      |      |      |
| 900      | 30 | 300  | 1700     | 70 | 3000 | 170 | 130 | 9000 | 3700 | 1300 | 3000 | 170 | 130  | 1700 | 300  |
|          |    |      | <b>W</b> |    |      |     |     |      |      |      |      |     |      |      |      |
| 130      | 30 | 1300 | 900      | 30 | 30   | 170 | 90  | 3700 | 30   | 30   | 3000 | 200 | 1300 | 370  | 3700 |

Round 890 to the nearest hundred  → **W**

Round 74 to the nearest ten  → **U**

Round 187 to the nearest hundred  → **H**

Round 3,494 to the nearest thousand  → **N**

Round 1,748 to the nearest hundred  → **O**

Round 3,677 to the nearest hundred  → **R**

Round 173 to the nearest ten  → **D**

Round 371 to the nearest ten  → **I**

Round 130 to the nearest ten  → **S**

Round 89 to the nearest ten  → **G**

Round 317 to the nearest hundred  → **F**

Round 1,295 to the nearest hundred  → **A**

Round 28 to the nearest ten  → **E**

Round 9,392 to the nearest thousand  → **T**

Scratch space:

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

The crew must divide their salvaged gold coins equally among the sailors. The leftover remainder holds the final secret.

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:**

$14 \div 7 = \boxed{\phantom{00}}$

$144 \div 12 = \boxed{\phantom{00}}$

$20 \div 5 = \boxed{\phantom{00}}$

$27 \div 9 = \boxed{\phantom{00}}$

$64 \div 8 = \boxed{\phantom{00}}$

$49 \div 7 = \boxed{\phantom{00}}$

$60 \div 6 = \boxed{\phantom{00}}$

$20 \div 4 = \boxed{\phantom{00}}$

$60 \div 10 = \boxed{\phantom{00}}$

$9 \div 9 = \boxed{\phantom{00}}$

$18 \div 2 = \boxed{\phantom{00}}$

**Step 2 - cross out the sentence with each answer:**

1. The villain fires a cannon to create a distraction, then points a pearl trident at the guards.
2. The villain uses coral magic to block the path, then points a pearl trident at the guards.
3. The villain swims swiftly through the coral maze, then points a pearl trident at the guards.
4. The villain fires a cannon to create a distraction, then checks a golden compass to navigate.
5. The villain uses coral magic to block the path, then plays a shell harp to soothe the reef.
6. The villain swings a rusty sword to clear a way, then checks a golden compass to navigate.
7. The villain steers the heavy pirate ship away, then plays a shell harp to soothe the reef.
8. The villain steers the heavy pirate ship away, then checks a golden compass to navigate.
9. The villain fires a cannon to create a distraction, then looks through a spyglass map for a route.
10. The villain swims swiftly through the coral maze, then brandishes a steel cutlass at the crew.
11. The villain fires a cannon to create a distraction, then brandishes a steel cutlass at the crew.
12. The villain steers the heavy pirate ship away, then looks through a spyglass map for a route.

# Answer Key

The Coral Crown Caper

## Culprit: Drake

Cannon Firing · Steel Cutlass · Left handed · Seaweed Green · Shiny Mirrors

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

### Clue 1 (Multiplication facts (1-12)): "THE THIEF DOES NOT CARRY A SHELL HARP"

$8 \times 2 = 16$  (T) ·  $11 \times 11 = 121$  (O) ·  $7 \times 11 = 77$  (H) ·  $7 \times 5 = 35$  (C) ·  $11 \times 3 = 33$  (I) ·  $9 \times 3 = 27$  (F) ·  $11 \times 2 = 22$  (E) ·  $4 \times 8 = 32$  (P) ·  $7 \times 6 = 42$  (Y) ·  $12 \times 4 = 48$  (A) ·  $5 \times 5 = 25$  (L) ·  $9 \times 9 = 81$  (S) ·  $12 \times 7 = 84$  (D) ·  $6 \times 1 = 6$  (N) ·  $6 \times 3 = 18$  (R)

### Clue 2 (Fractions of a number): "THE SCRAWLED NOTE WAS WRITTEN LEFT HANDED"

$2/10$  of 175 = 35 (T) ·  $5/10$  of 46 = 23 (A) ·  $9/10$  of 30 = 27 (L) ·  $1/4$  of 20 = 5 (D) ·  $1/5$  of 150 = 30 (N) ·  $3/6$  of 66 = 33 (C) ·  $4/8$  of 4 = 2 (H) ·  $5/10$  of 26 = 13 (E) ·  $2/3$  of 21 = 14 (W) ·  $2/4$  of 30 = 15 (I) ·  $2/8$  of 40 = 10 (O) ·  $1/6$  of 174 = 29 (F) ·  $2/6$  of 57 = 19 (S) ·  $1/10$  of 70 = 7 (R)

### Clue 3 (Order of operations): "THE SNEAK RECOILED FROM SHINY MIRRORS"

$17 + 4 \times 3 = 29$  (T) ·  $1 + 2 \times 3 = 7$  (Y) ·  $8 \times 3 - 8 = 16$  (H) ·  $39 + 2 \times 4 = 47$  (F) ·  $12 \times 7 - 9 = 75$  (M) ·  $8 \times 5 - 13 = 27$  (N) ·  $2 + 3 \times 3 = 11$  (D) ·  $3 + 6 \times 5 = 33$  (L) ·  $2 \times 10 - 7 = 13$  (R) ·  $12 \times 7 - 7 = 77$  (E) ·  $12 \times 7 - 8 = 76$  (A) ·  $8 \times 8 - 30 = 34$  (I) ·  $10 \times 8 - 2 = 78$  (C) ·  $3 \times 7 - 12 = 9$  (S) ·  $4 \times 9 - 4 = 32$  (K) ·  $2 + 2 \times 2 = 6$  (O)

### Clue 4 (Rounding): "WE FOUND STRANDS OF SEAWEED GREEN HAIR"

Round 890 to the nearest hundred = 900 (W) · Round 74 to the nearest ten = 70 (U) · Round 187 to the nearest hundred = 200 (H) · Round 3,494 to the nearest thousand = 3000 (N) · Round 1,748 to the nearest hundred = 1700 (O) · Round 3,677 to the nearest hundred = 3700 (R) · Round 173 to the nearest ten = 170 (D) · Round 371 to the nearest ten = 370 (I) · Round 130 to the nearest ten = 130 (S) · Round 89 to the nearest ten = 90 (G) · Round 317 to the nearest hundred = 300 (F) · Round 1,295 to the nearest hundred = 1300 (A) · Round 28 to the nearest ten = 30 (E) · Round 9,392 to the nearest thousand = 9000 (T)

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

$14 \div 7 = 2$  ·  $144 \div 12 = 12$  ·  $20 \div 5 = 4$  ·  $27 \div 9 = 3$  ·  $64 \div 8 = 8$  ·  $49 \div 7 = 7$  ·  $60 \div 6 = 10$  ·  $20 \div 4 = 5$  ·  $60 \div 10 = 6$  ·  $9 \div 9 = 1$  ·  $18 \div 2 = 9$