



The Case of the Lost Golden Compass

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

Detective: _____ Date: _____

Someone has raided the treasure hold of the Sea Serpent! The Quartermaster's golden compass is gone, leaving the crew stranded without a heading. We must track down the rogue pirate before they sail away with the loot.

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 pirate is _____

Possible suspects

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

NAME	PRIMARY PIRATE SKILL	SECONDARY PIRATE GEAR	CUTLASS HANDEDNESS	HAIR STYLE	SCURVY WEAKNESS
William Kidd	cannon blasting	parrot whispering	left-handed cutlass swing	scruffy red hair	ticklish toes
Samuel Bellamy	map deciphering	sail rigging	right-handed cutlass swing	braided black hair	seasickness
Stede Bonnet	map deciphering	pegleg kicking	right-handed cutlass swing	braided black hair	seasickness
Jolly Roger	rigging swinging	parrot whispering	left-handed cutlass swing	braided black hair	fear of ghosts
Groggy George	rigging swinging	anchor dropping	right-handed cutlass swing	scruffy red hair	seasickness
Redbeard Rusty	map deciphering	sail rigging	right-handed cutlass swing	bandana covered gray hair	seasickness
Calico Jack	map deciphering	pegleg kicking	left-handed cutlass swing	bandana covered gray hair	ticklish toes
Sadie the Goat	rigging swinging	pegleg kicking	left-handed cutlass swing	bandana covered gray hair	fear of ghosts
Cutlass Cody	crow nest scouting	sail rigging	right-handed cutlass swing	braided black hair	seasickness
Blackbeard Edward	crow nest scouting	compass navigating	right-handed cutlass swing	bandana covered gray hair	fear of ghosts
Edward Low	map deciphering	compass navigating	left-handed cutlass swing	scruffy red hair	fear of ghosts
Mary Read	cannon blasting	compass navigating	right-handed cutlass swing	braided black hair	seasickness
Barnacle Bill	sword dueling	pegleg kicking	left-handed cutlass swing	braided black hair	seasickness
Bartholomew Roberts	map deciphering	compass navigating	left-handed cutlass swing	braided black hair	ticklish toes
Charles Vane	crow nest scouting	pegleg kicking	left-handed cutlass swing	braided black hair	fear of ghosts
Salty Sally	map deciphering	parrot whispering	right-handed cutlass swing	braided black hair	seasickness
One Eyed Willy	rigging swinging	anchor dropping	right-handed cutlass swing	braided black hair	ticklish toes
Anne Bonny	crow nest scouting	pegleg kicking	right-handed cutlass swing	bandana covered gray hair	ticklish toes
Grace O Malley	crow nest scouting	compass navigating	left-handed cutlass swing	bandana covered gray hair	fear of ghosts
Henry Morgan	crow nest scouting	anchor dropping	right-handed cutlass swing	bandana covered gray hair	fear of ghosts
Pegleg Pete	crow nest scouting	compass navigating	right-handed cutlass swing	braided black hair	seasickness

CLUE 1 Place value

The ship's ledger has a mysterious number code written on the inside cover, but the digits are smeared. Use your place value knowledge to figure out the value of the hundreds digit and crack the code!

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

T								T										T
80	400	50	700	20	30	9000	80	50	10	60	50	40	200	60	80			

400	9000	6000	50	40	9000	20	8000	30	20	90	90	20	200	90				

40	3000	20	8000	8000	40													

What is the value of the 8 in 56,787? → **T**

What is the value of the 8 in 918,760? → **L**

What is the value of the 3 in 509,738? → **R**

What is the value of the 6 in 726,420? → **V**

What is the value of the 1 in 40,517? → **D**

What is the value of the 9 in 35,597? → **G**

What is the value of the 4 in 77,242? → **S**

What is the value of the 4 in 910,491? → **H**

What is the value of the 7 in 906,780? → **P**

What is the value of the 5 in 89,753? → **E**

What is the value of the 2 in 430,205? → **N**

What is the value of the 9 in 29,027? → **A**

What is the value of the 6 in 28,460? → **O**

What is the value of the 3 in 143,646? → **K**

What is the value of the 2 in 43,428? → **I**

Scratch space:

CLUE 2
Fractions of a number

The crew divided up a basket of tropical papayas, but the thief took more than their fair share. Work out the exact fraction of the fruit pile to find a scrap of cloth left behind!

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

R																	
15	7	6	10	21	10	35	32	38	19	38	37	3	21	39	35	2	2
2	39	35	2	10	22	9	3	32	38	9	32	31	9	9	38		

$5/8 \text{ of } 24 = \square \rightarrow \text{R}$

$1/4 \text{ of } 8 = \square \rightarrow \text{S}$

$4/6 \text{ of } 57 = \square \rightarrow \text{D}$

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

$2/8 \text{ of } 148 = \square \rightarrow \text{C}$

$7/8 \text{ of } 8 = \square \rightarrow \text{I}$

$1/2 \text{ of } 64 = \square \rightarrow \text{N}$

$1/5 \text{ of } 155 = \square \rightarrow \text{W}$

$4/8 \text{ of } 70 = \square \rightarrow \text{A}$

$1/3 \text{ of } 27 = \square \rightarrow \text{O}$

$1/3 \text{ of } 57 = \square \rightarrow \text{E}$

$4/8 \text{ of } 44 = \square \rightarrow \text{F}$

$2/4 \text{ of } 6 = \square \rightarrow \text{U}$

$3/8 \text{ of } 16 = \square \rightarrow \text{G}$

$1/2 \text{ of } 42 = \square \rightarrow \text{T}$

$1/2 \text{ of } 78 = \square \rightarrow \text{L}$

Scratch space:

Order of operations

We found a locked safe containing the suspect's diary, but opening it requires solving a complex equation in the exact correct order of operations. Solve it to unlock the diary!

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

Diagram illustrating a sequence of boxes and numbers:

- Row 1: 12 boxes. The 1st, 10th, and 11th boxes are shaded orange and contain the letter 'T'. The numbers below the boxes are: 36, 15, 17, 9, 11, 55, 6, 17, 55, 11, 36, 18, 17, 9, 75.
- Row 2: 16 boxes. The 10th box is shaded orange and contains the letter 'T'. The numbers below the boxes are: 29, 17, 32, 29, 24, 19, 76, 11, 63, 36, 15, 17, 19, 15, 11, 69, 69, 75.
- Row 3: 3 boxes. The numbers below the boxes are: 54, 32, 75.

$$9 \times 7 - 27 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2 + 5 \times 6 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$10 \times 8 - 26 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$2 + 2 \times 2 = \boxed{} \rightarrow \boxed{\text{U}}$$

$8 \times 5 - 16 = \boxed{} \rightarrow \boxed{\text{I}}$

$$2 + 4 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$9 + 2 \times 5 = \boxed{} \rightarrow \boxed{\text{C}}$

$$8 \times 9 - 9 = \boxed{} \rightarrow \boxed{\text{N}}$$

$11 \times 8 - 13 = \boxed{} \rightarrow \boxed{\text{Y}}$

$1 + 6 \times 9 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$7 + 2 \times 4 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$1 + 5 \times 2 = \boxed{} \rightarrow \boxed{0}$$

$$36 + 8 \times 5 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$7 \times 11 - 8 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$12 \times 2 - 7 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$12 \times 3 - 27 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$14 + 3 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

Scratch space:

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

A stash of silver doubloons must be shared equally among the deckhands. Divide the coins fairly to see how many are left over, revealing the final clue!

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:

$50 \div 10 = \boxed{}$

$132 \div 11 = \boxed{}$

$18 \div 6 = \boxed{}$

$80 \div 8 = \boxed{}$

$36 \div 4 = \boxed{}$

$66 \div 6 = \boxed{}$

$6 \div 1 = \boxed{}$

$4 \div 1 = \boxed{}$

$77 \div 11 = \boxed{}$

$12 \div 6 = \boxed{}$

$9 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain stole the map to skeleton bay, then slid down the anchor rope.
2. The villain looted the captain's chest, then escaped in a rowboat.
3. The villain swiped the golden compass, then hid in the cargo hold.
4. The villain looted the captain's chest, then ran across the wooden pier.
5. The villain stole the map to skeleton bay, then escaped in a rowboat.
6. The villain pilfered the secret key, then escaped in a rowboat.
7. The villain looted the captain's chest, then swam to the rocky shore.
8. The villain stole the map to skeleton bay, then ran across the wooden pier.
9. The villain pilfered the secret key, then ran across the wooden pier.
10. The villain looted the captain's chest, then hid in the cargo hold.
11. The villain pilfered the secret key, then slid down the anchor rope.
12. The villain plundered the ruby necklace, then hid in the cargo hold.

Answer Key

The Case of the Lost Golden Compass

Culprit: Stede Bonnet

map deciphering · pegleg kicking · right-handed cutlass swing · braided black hair · seasickness

Trail: Start 21 → Clue 1 18 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE PIRATE DOES NOT HAVE SAIL RIGGING SKILLS"

What is the value of the 8 in 56,787? = 80 (T) · What is the value of the 8 in 918,760? = 8000 (L) · What is the value of the 3 in 509,738? = 30 (R) · What is the value of the 6 in 726,420? = 6000 (V) · What is the value of the 1 in 40,517? = 10 (D) · What is the value of the 9 in 35,597? = 90 (G) · What is the value of the 4 in 77,242? = 40 (S) · What is the value of the 4 in 910,491? = 400 (H) · What is the value of the 7 in 906,780? = 700 (P) · What is the value of the 5 in 89,753? = 50 (E) · What is the value of the 2 in 430,205? = 200 (N) · What is the value of the 9 in 29,027? = 9000 (A) · What is the value of the 6 in 28,460? = 60 (O) · What is the value of the 3 in 143,646? = 3000 (K) · What is the value of the 2 in 43,428? = 20 (I)

Clue 2 (Fractions of a number): "RIGHT HANDED CUTLASS SLASH FOUND ON WOOD"

$\frac{5}{8}$ of 24 = 15 (R) · $\frac{1}{4}$ of 8 = 2 (S) · $\frac{4}{6}$ of 57 = 38 (D) · $\frac{1}{8}$ of 80 = 10 (H) · $\frac{2}{8}$ of 148 = 37 (C) · $\frac{7}{8}$ of 8 = 7 (I) · $\frac{1}{2}$ of 64 = 32 (N) · $\frac{1}{5}$ of 155 = 31 (W) · $\frac{4}{8}$ of 70 = 35 (A) · $\frac{1}{3}$ of 27 = 9 (O) · $\frac{1}{3}$ of 57 = 19 (E) · $\frac{4}{8}$ of 44 = 22 (F) · $\frac{2}{4}$ of 6 = 3 (U) · $\frac{3}{8}$ of 16 = 6 (G) · $\frac{1}{2}$ of 42 = 21 (T) · $\frac{1}{2}$ of 78 = 39 (L)

Clue 3 (Order of operations): "THE ROGUE GOT VERY SEASICK ON THE CHOPPY BAY"

$9 \times 7 - 27 = 36$ (T) · $2 + 5 \times 6 = 32$ (A) · $10 \times 8 - 26 = 54$ (B) · $2 + 2 \times 2 = 6$ (U) · $8 \times 5 - 16 = 24$ (I) · $2 + 4 \times 4 = 18$ (V) · $9 + 2 \times 5 = 19$ (C) · $8 \times 9 - 9 = 63$ (N) · $11 \times 8 - 13 = 75$ (Y) · $1 + 6 \times 9 = 55$ (G) · $7 + 2 \times 4 = 15$ (H) · $1 + 5 \times 2 = 11$ (O) · $36 + 8 \times 5 = 76$ (K) · $7 \times 11 - 8 = 69$ (P) · $12 \times 2 - 7 = 17$ (E) · $12 \times 3 - 27 = 9$ (R) · $14 + 3 \times 5 = 29$ (S)

Clue 4 (Multiplication facts (1-12)): "LOOSE BLACK BRAIDS WERE LEFT ON THE HAMMOCK"

$10 \times 5 = 50$ (L) · $10 \times 7 = 70$ (O) · $8 \times 5 = 40$ (M) · $7 \times 6 = 42$ (R) · $11 \times 8 = 88$ (I) · $11 \times 9 = 99$ (N) · $7 \times 11 = 77$ (S) · $2 \times 10 = 20$ (H) · $8 \times 3 = 24$ (C) · $2 \times 6 = 12$ (F) · $12 \times 9 = 108$ (W) · $2 \times 1 = 2$ (A) · $5 \times 9 = 45$ (B) · $3 \times 11 = 33$ (E) · $9 \times 7 = 63$ (K) · $3 \times 10 = 30$ (D) · $6 \times 8 = 48$ (T)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Stede Bonnet

$50 \div 10 = 5$ · $132 \div 11 = 12$ · $18 \div 6 = 3$ · $80 \div 8 = 10$ · $36 \div 4 = 9$ · $66 \div 6 = 11$ · $6 \div 1 = 6$ · $4 \div 1 = 4$ · $77 \div 11 = 7$ · $12 \div 6 = 2$ · $9 \div 9 = 1$