



The Mystery of the Captain's Compass

Grade 5 math · Multiplication, Addition, Place value, Subtraction, Fractions of a number · Reading level grades 5-6

Detective: _____ Date: _____

Someone sneaked into the Quartermaster's cabin and stole the legendary Golden Compass! The suspect is one of the twenty-four notorious pirates currently docked at Scurvy Cove. It is up to you to decode the clues and find the thief before they set sail.

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 pirate 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 TOOL	LUCKY CHARM	WRITING HAND	HAIR STRAND	FEARSOME DREAD
Gunpowder Gabe	Golden Spyglass	Shark Tooth	Right Handed	Grey Hair	Ticklish
Cutthroat Connor	Boarding Axe	Silver Ring	Right Handed	Grey Hair	Ticklish
Pegleg Pete	Grappling Hook	Shiny Doubloon	Right Handed	Grey Hair	Fear of Heights
Charles Vane	Grappling Hook	Silver Ring	Left Handed	Red Hair	Ticklish
Francis Drake	Golden Spyglass	Shark Tooth	Left Handed	Red Hair	Fear of Toads
William Kidd	Engraved Flintlock	Parrot Feather	Right Handed	Red Hair	Fear of Toads
Anne Bonny	Grappling Hook	Shiny Doubloon	Left Handed	Red Hair	Ticklish
Calico Jack	Heavy Cutlass	Brass Compass	Left Handed	Black Hair	Fear of Toads
Scurvy Sam	Golden Spyglass	Shiny Doubloon	Left Handed	Red Hair	Fear of Heights
Siren Sarah	Boarding Axe	Parrot Feather	Right Handed	Black Hair	Ticklish
Blackbeard	Engraved Flintlock	Shiny Doubloon	Left Handed	Black Hair	Fear of Heights
Plank Walkin Pete	Golden Spyglass	Silver Ring	Right Handed	Black Hair	Ticklish
Barnaby Blue	Engraved Flintlock	Parrot Feather	Right Handed	Grey Hair	Ticklish
Captain Hook	Golden Spyglass	Shark Tooth	Left Handed	Grey Hair	Ticklish
Salty Susan	Engraved Flintlock	Brass Compass	Right Handed	Red Hair	Fear of Toads
Long John Silver	Heavy Cutlass	Shiny Doubloon	Right Handed	Grey Hair	Fear of Heights
Henry Morgan	Engraved Flintlock	Shark Tooth	Right Handed	Grey Hair	Ticklish
Edward England	Grappling Hook	Shark Tooth	Right Handed	Grey Hair	Fear of Heights
Grace O Malley	Engraved Flintlock	Shark Tooth	Left Handed	Black Hair	Ticklish
Mary Read	Boarding Axe	Brass Compass	Right Handed	Grey Hair	Ticklish
Jolly Roger	Golden Spyglass	Silver Ring	Right Handed	Black Hair	Fear of Heights

CLUE 1 Multiplication facts (1-12)

The Quartermaster counts the barrels of ship biscuits stacked in identical rows. Solving the total number of biscuits reveals the first clue.

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

80 48 44 70 81 70 28 44 11 80 96 18 44 70 100 18 80

18 64 100 63 28 63 7 7 18 80 12 44 63 80 48 44 7

$10 \times 8 = \boxed{} \rightarrow \boxed{\text{T}}$

$6 \times 8 = \boxed{} \rightarrow \boxed{\text{H}}$

$7 \times 4 = \boxed{} \rightarrow \boxed{\text{P}}$

$11 \times 4 = \boxed{} \rightarrow \mathbf{E}$

$$3 \times 6 = \boxed{} \rightarrow \boxed{0}$$

$8 \times 12 = \boxed{} \rightarrow \boxed{\text{D}}$

$9 \times 7 = \square \rightarrow \boxed{\mathbf{A}}$

$$1 \times 11 = \boxed{} \rightarrow \boxed{\mathbf{C}}$$

$10 \times 10 = \square \rightarrow$

$1 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{R}}$

$$8 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{W}}$$

$12 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{F}}$

$9 \times 9 = \boxed{} \rightarrow \boxed{\text{U}}$

$7 \times 10 = \square \rightarrow \mathbf{S}$

Scratch space:

CLUE 2 Addition

To track down the culprit, the crew tallies up all the cannonballs stored in the cargo hold. This sum gives us our next lead.

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

T			T									T					
2544	7554	2122	2544	7554	6042	2122	3350	7554	2122	6245	5133	2544	7554	2122	8375	2122	9191
		T									T						
6042	3375	2544	7554	2122	6042	4623	4623	6042	7074	7554	2544	7554	4031	3375	5133		

$1556 + 988 = \square \rightarrow \boxed{\text{T}}$

$2867 + 2266 = \square \rightarrow \boxed{\text{D}}$

$1422 + 700 = \square \rightarrow \boxed{\text{E}}$

$2631 + 3411 = \square \rightarrow \boxed{\text{I}}$

$1641 + 2390 = \square \rightarrow \boxed{\text{A}}$

$2389 + 3856 = \square \rightarrow \boxed{\text{L}}$

$1074 + 2276 = \square \rightarrow \boxed{\text{F}}$

$1399 + 1976 = \square \rightarrow \boxed{\text{N}}$

$3538 + 5653 = \square \rightarrow \boxed{\text{Y}}$

$4034 + 3520 = \square \rightarrow \boxed{\text{H}}$

$2410 + 2213 = \square \rightarrow \boxed{\text{R}}$

$3208 + 3866 = \square \rightarrow \boxed{\text{G}}$

$3734 + 4641 = \square \rightarrow \boxed{\text{K}}$

Scratch space:

CLUE 3 Place value

The ship's logbook has a mysterious code written across three different digit columns. Looking closely at the place value of the secret number uncovers a clue.

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

T			T								T						
8000	40	500	8000	40	6000	500	400	300	3000	4000	8000	6000	80	50	30	500	700

		T						T			
300	6000	8000	40	3000	400	500	3000	8000	40	500	60

What is the value of the 8 in 508,403? → **T**

What is the value of the 3 in 83,588? → **A**

What is the value of the 6 in 46,320? → **I**

What is the value of the 6 in 50,464? → **R**

What is the value of the 3 in 197,931? → **L**

What is the value of the 5 in 426,156? → **K**

What is the value of the 3 in 44,368? → **W**

What is the value of the 7 in 42,741? → **D**

What is the value of the 4 in 92,640? → **H**

What is the value of the 4 in 50,412? → **F**

What is the value of the 4 in 174,622? → **S**

What is the value of the 5 in 88,514? → **E**

What is the value of the 8 in 20,785? → **C**

Scratch space:

CLUE 4
Subtraction

We compare the gold doubloons left in the chest to the amount we started with. The missing amount points us directly to a crucial detail about the thief.

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

W																		
7634	2420	8025	8530	8361	2772	8951	7485	6715	2420	7279	1835	5118	4210	6715	2772	2420	5118	6715

8916	1835	2420	3511	5118	8820	8916	5118	2731	5183	2420

$11838 - 4204 = \square \rightarrow \boxed{\text{W}}$

$8667 - 642 = \square \rightarrow \boxed{\text{F}}$

$3550 - 778 = \square \rightarrow \boxed{\text{N}}$

$8211 - 4001 = \square \rightarrow \boxed{\text{I}}$

$11919 - 4640 = \square \rightarrow \boxed{\text{Y}}$

$4080 - 1660 = \square \rightarrow \boxed{\text{E}}$

$11815 - 2995 = \square \rightarrow \boxed{\text{P}}$

$6724 - 9 = \square \rightarrow \boxed{\text{R}}$

$13295 - 4934 = \square \rightarrow \boxed{\text{U}}$

$7757 - 272 = \square \rightarrow \boxed{\text{G}}$

$8046 - 4535 = \square \rightarrow \boxed{\text{M}}$

$11502 - 2551 = \square \rightarrow \boxed{\text{D}}$

$8975 - 3857 = \square \rightarrow \boxed{\text{A}}$

$6095 - 4260 = \square \rightarrow \boxed{\text{H}}$

$11307 - 2391 = \square \rightarrow \boxed{\text{T}}$

$4425 - 1694 = \square \rightarrow \boxed{\text{B}}$

$7295 - 2112 = \square \rightarrow \boxed{\text{L}}$

$11030 - 2500 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

CLUE 5**Fractions of a number - the last clue**

Only a fraction of the green parrots on the deck are wearing tiny pirate hats. Calculating this exact portion reveals the final piece of evidence.

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:

$2/6 \text{ of } 27 = \boxed{}$

$3/6 \text{ of } 16 = \boxed{}$

$1/4 \text{ of } 12 = \boxed{}$

$3/6 \text{ of } 8 = \boxed{}$

$2/6 \text{ of } 3 = \boxed{}$

$1/10 \text{ of } 20 = \boxed{}$

$4/10 \text{ of } 15 = \boxed{}$

$1/4 \text{ of } 48 = \boxed{}$

$2/6 \text{ of } 30 = \boxed{}$

$2/8 \text{ of } 44 = \boxed{}$

$1/6 \text{ of } 42 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain crept across the wooden deck, then locked the captain's chest.
2. The villain pushed open the creaky cabin door, then locked the captain's chest.
3. The villain crept across the wooden deck, then grabbed the velvet pouch.
4. The villain dropped from the crow's nest, then pocketed the gold trinket.
5. The villain dropped from the crow's nest, then locked the captain's chest.
6. The villain swung down from the rigging, then snatched the dusty map.
7. The villain dropped from the crow's nest, then snatched the dusty map.
8. The villain dropped from the crow's nest, then took the shining compass.
9. The villain swung down from the rigging, then grabbed the velvet pouch.
10. The villain crept across the wooden deck, then snatched the dusty map.
11. The villain crept across the wooden deck, then pocketed the gold trinket.
12. The villain climbed through the porthole, then pocketed the gold trinket.

Answer Key

The Mystery of the Captain's Compass

Culprit: Cutthroat Connor

Boarding Axe · Silver Ring · Right Handed · Grey Hair · Ticklish

Trail: Start 21 → Clue 1 18 → Clue 2 10 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SUSPECT DOES NOT OWN A PARROT FEATHER"

$10 \times 8 = 80$ (T) · $6 \times 8 = 48$ (H) · $7 \times 4 = 28$ (P) · $11 \times 4 = 44$ (E) · $3 \times 6 = 18$ (O) · $8 \times 12 = 96$ (D) · $9 \times 7 = 63$ (A) · $1 \times 11 = 11$ (C) · $10 \times 10 = 100$ (N) · $1 \times 7 = 7$ (R) · $8 \times 8 = 64$ (W) · $12 \times 1 = 12$ (F) · $9 \times 9 = 81$ (U) · $7 \times 10 = 70$ (S)

Clue 2 (Addition): "THE THIEF HELD THE KEY IN THEIR RIGHT HAND"

$1556 + 988 = 2544$ (T) · $2867 + 2266 = 5133$ (D) · $1422 + 700 = 2122$ (E) · $2631 + 3411 = 6042$ (I) · $1641 + 2390 = 4031$ (A) · $2389 + 3856 = 6245$ (L) · $1074 + 2276 = 3350$ (F) · $1399 + 1976 = 3375$ (N) · $3538 + 5653 = 9191$ (Y) · $4034 + 3520 = 7554$ (H) · $2410 + 2213 = 4623$ (R) · $3208 + 3866 = 7074$ (G) · $3734 + 4641 = 8375$ (K)

Clue 3 (Place value): "THE THIEF WAS TICKLED WITH A FEATHER"

What is the value of the 8 in 508,403? = 8000 (T) · What is the value of the 3 in 83,588? = 3000 (A) · What is the value of the 6 in 46,320? = 6000 (I) · What is the value of the 6 in 50,464? = 60 (R) · What is the value of the 3 in 197,931? = 30 (L) · What is the value of the 5 in 426,156? = 50 (K) · What is the value of the 3 in 44,368? = 300 (W) · What is the value of the 7 in 42,741? = 700 (D) · What is the value of the 4 in 92,640? = 40 (H) · What is the value of the 4 in 50,412? = 400 (F) · What is the value of the 4 in 174,622? = 4000 (S) · What is the value of the 5 in 88,514? = 500 (E) · What is the value of the 8 in 20,785? = 80 (C)

Clue 4 (Subtraction): "WE FOUND GREY HAIR NEAR THE MAP TABLE"

$11838 - 4204 = 7634$ (W) · $8667 - 642 = 8025$ (F) · $3550 - 778 = 2772$ (N) · $8211 - 4001 = 4210$ (I) · $11919 - 4640 = 7279$ (Y) · $4080 - 1660 = 2420$ (E) · $11815 - 2995 = 8820$ (P) · $6724 - 9 = 6715$ (R) · $13295 - 4934 = 8361$ (U) · $7757 - 272 = 7485$ (G) · $8046 - 4535 = 3511$ (M) · $11502 - 2551 = 8951$ (D) · $8975 - 3857 = 5118$ (A) · $6095 - 4260 = 1835$ (H) · $11307 - 2391 = 8916$ (T) · $4425 - 1694 = 2731$ (B) · $7295 - 2112 = 5183$ (L) · $11030 - 2500 = 8530$ (O)

Clue 5 (Fractions of a number): surviving statement is box 5 → Cutthroat Connor

$2/6$ of 27 = 9 · $3/6$ of 16 = 8 · $1/4$ of 12 = 3 · $3/6$ of 8 = 4 · $2/6$ of 3 = 1 · $1/10$ of 20 = 2 · $4/10$ of 15 = 6 · $1/4$ of 48 = 12 · $2/6$ of 30 = 10 · $2/8$ of 44 = 11 · $1/6$ of 42 = 7