



The Mystery of the Santiana Flag

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

Detective: _____ Date: _____

A sneaky culprit has swiped Captain Joshua Dax Zeno's prized golden captain flag right from the mast of the Santiana! It is up to you to search the ship, solve the math mysteries, and find out who took it.

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 crewmate is _____

Possible suspects

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

NAME	PRIMARY STATION	DECK GEAR	STEERING HAND	BANDANA COLOR	SWEETS WEAKNESS
Breezy	Engine Room	Spyglass	Left-Handed Steerer	Blue Bandana	Sour Gummies
Patch	Galley Deck	Grappling Hook	Right-Handed Steerer	Blue Bandana	Choc Chip Cookies
Zeno Kid	Anchor Bay	Grappling Hook	Left-Handed Steerer	Black Bandana	Choc Chip Cookies
Scooter	Anchor Bay	Grappling Hook	Right-Handed Steerer	Blue Bandana	Sour Gummies
Rigging Ron	Crow's Nest	Grappling Hook	Right-Handed Steerer	Red Bandana	Licorice Whips
Rusty	Anchor Bay	Smoke Screen	Right-Handed Steerer	Red Bandana	Licorice Whips
Tack	Anchor Bay	Smoke Screen	Right-Handed Steerer	Black Bandana	Licorice Whips
Skipper Joey	Galley Deck	Signal Flare	Left-Handed Steerer	Red Bandana	Licorice Whips
Finley	Anchor Bay	Smoke Screen	Right-Handed Steerer	Red Bandana	Choc Chip Cookies
Plank	Captain's Cabin	Water Cannon	Left-Handed Steerer	Black Bandana	Licorice Whips
Barnaby	Captain's Cabin	Smoke Screen	Left-Handed Steerer	Red Bandana	Sour Gummies
Salty Sam	Crow's Nest	Grappling Hook	Right-Handed Steerer	Blue Bandana	Sour Gummies
Cove	Galley Deck	Signal Flare	Right-Handed Steerer	Blue Bandana	Sour Gummies
Keel	Anchor Bay	Signal Flare	Right-Handed Steerer	Red Bandana	Choc Chip Cookies
Sailor Sue	Engine Room	Spyglass	Right-Handed Steerer	Blue Bandana	Licorice Whips
Jib	Anchor Bay	Signal Flare	Left-Handed Steerer	Red Bandana	Choc Chip Cookies
Marina	Galley Deck	Smoke Screen	Right-Handed Steerer	Blue Bandana	Sour Gummies
Skiff	Galley Deck	Smoke Screen	Right-Handed Steerer	Red Bandana	Licorice Whips
Captain Dax	Engine Room	Water Cannon	Right-Handed Steerer	Blue Bandana	Sour Gummies
Pip	Anchor Bay	Spyglass	Left-Handed Steerer	Black Bandana	Choc Chip Cookies
Beacon	Captain's Cabin	Signal Flare	Right-Handed Steerer	Black Bandana	Sour Gummies

CLUE 1

Captain Joshua Dax Zeno needs a quick count of all the spare wooden planks stacked on the main deck. Add up these piles so we can clear the path to look for clues.

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

$$2494 + 4487 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2721 + 2969 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$2716 + 1643 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$1413 + 1621 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$3621 + 2543 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$2890 + 5065 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$2821 + 5371 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$1513 + 1600 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$4958 + 3523 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4874 + 2282 = \boxed{} \rightarrow \boxed{\text{E}}$$

$2569 + 3511 = \boxed{} \rightarrow \boxed{\text{C}}$

$$5373 + 2809 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$6004 + 3010 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$2146 + 1433 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$3258 + 4281 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$6157 + 3468 = \boxed{} \rightarrow \boxed{\text{N}}$$

Scratch space:

CLUE 2 Subtraction

Our water barrels are leaking into the bilge. Subtract the spilled gallons from our total stock so the Santiana does not run dry during the chase.

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

T																		
4686	8624	7008	7718	6394	8064	8624	4686	8624	4828	4846	6442	8064	7718	4828	7573	7573	7008	6442

T													
4686	8624	7008	5719	8624	6394	3296	5732	5425	1911	3296	4828	5719	5719

8430 - 3744 = → T	6654 - 935 = → S	10632 - 2568 = → G
10728 - 3010 = → R	10588 - 4194 = → I	6702 - 260 = → D
6466 - 4555 = → M	13011 - 4387 = → H	8788 - 1780 = → E
3435 - 139 = → P	6169 - 1341 = → A	8605 - 2873 = → C
9585 - 4739 = → N	5472 - 47 = → O	11785 - 4212 = → B

Scratch space:

CLUE 3

Multiplication facts (1-12)

The deckhands stacked heavy crates of oranges in equal rows to keep them from rolling. Multiply the rows by the crates to find how many we have left.

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

S																S
72	18	27	66	120	27	54	54	4	96	66	36	88	88	99	66	72

												S				
96	99	66	99	64	99	35	60	55	4	60	50	99	72	36	35	99

$6 \times 12 = \square \rightarrow \boxed{\text{S}}$

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

$3 \times 9 = \square \rightarrow \boxed{\text{U}}$

$11 \times 6 = \square \rightarrow \boxed{\text{R}}$

$12 \times 8 = \square \rightarrow \boxed{\text{W}}$

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

$3 \times 12 = \square \rightarrow \boxed{\text{A}}$

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

$12 \times 5 = \square \rightarrow \boxed{\text{T}}$

$5 \times 7 = \square \rightarrow \boxed{\text{F}}$

$4 \times 1 = \square \rightarrow \boxed{\text{Y}}$

$11 \times 5 = \square \rightarrow \boxed{\text{B}}$

$9 \times 2 = \square \rightarrow \boxed{\text{O}}$

$9 \times 6 = \square \rightarrow \boxed{\text{M}}$

$12 \times 10 = \square \rightarrow \boxed{\text{G}}$

$8 \times 8 = \square \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 4 Fractions of a number

A flock of hungry seagulls landed on the rigging. If we calculate what fraction of the flock flew away, we can figure out which path the culprit took.

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

The image shows two rows of empty boxes. In the first row, the first box contains the letter 'A' and the number 17 below it. The second box is empty with the number 15 below it. The third box is empty with the number 3 below it. The fourth box is empty with the number 16 below it. The fifth box is empty with the number 4 below it. The sixth box is empty with the number 24 below it. The seventh box is empty with the number 29 below it. The eighth box is empty with the number 40 below it. The ninth box is empty with the number 4 below it. The tenth box contains the letter 'A' and the number 17 below it. The eleventh box is empty with the number 34 below it. The twelfth box is empty with the number 2 below it. The thirteenth box is empty with the number 40 below it. The fourteenth box is empty with the number 28 below it. The fifteenth box is empty with the number 32 below it. The sixteenth box contains the letter 'A' and the number 17 below it. In the second row, the first box is empty with the number 15 below it. The second box contains the letter 'A' and the number 17 below it. The third box is empty with the number 25 below it. The fourth box is empty with the number 34 below it. The fifth box contains the letter 'A' and the number 17 below it. The sixth box is empty with the number 25 below it. The seventh box contains the letter 'A' and the number 17 below it. The eighth box is empty with the number 10 below it. The ninth box contains the letter 'A' and the number 17 below it. The tenth box is empty with the number 27 below it. The eleventh box is empty with the number 3 below it. The twelfth box is empty with the number 4 below it. The thirteenth box is empty with the number 2 below it. The fourteenth box is empty with the number 24 below it. The fifteenth box is empty with the number 15 below it. The sixteenth box is empty with the number 4 below it. The seventeenth box is empty with the number 29 below it. The eighteenth box is empty with the number 20 below it. The nineteenth box is empty with the number 25 below it. The twentieth box is empty with the number 34 below it.

3/6 of 34 = → **A**

$$2/6 \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{I}}$$

$\frac{1}{4}$ of 60 = $\rightarrow$ **B**

$2/10$ of 170 = $\rightarrow$ **D**

$2/6$ of $6 = \square \rightarrow \mathbf{F}$

$4/5$ of 35 = $\rightarrow$

$$\frac{1}{5} \text{ of } 160 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$\frac{1}{6} \text{ of } 60 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$\frac{1}{8} \text{ of } 192 = \boxed{} \rightarrow \boxed{\text{T}}$$

$\frac{1}{2}$ of 8 = $\rightarrow$ **E**

$3/5$ of $5 = \square \rightarrow \boxed{\text{L}}$

$\frac{1}{2}$ of 50 = $\rightarrow$ **N**

$$\frac{3}{4} \text{ of } 36 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$\frac{1}{6} \text{ of } 174 = \boxed{} \rightarrow \boxed{\text{H}}$$

$1/6$ of 96 = $\rightarrow$ **U**

8/10 of 50 = → **R**

Scratch space:

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

Captain Zeno wants to share our backup map pieces evenly among the patrol boats. Solve this fraction of our map pile to see who gets the search area.

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:

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

$4/6 \text{ of } 12 = \boxed{}$

$4/10 \text{ of } 30 = \boxed{}$

$1/10 \text{ of } 60 = \boxed{}$

$1/6 \text{ of } 12 = \boxed{}$

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

$5/10 \text{ of } 8 = \boxed{}$

$3/6 \text{ of } 14 = \boxed{}$

$1/10 \text{ of } 30 = \boxed{}$

$3/8 \text{ of } 24 = \boxed{}$

$5/10 \text{ of } 20 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain escapes from the engine room, then blasts a giant water cannon.
2. The villain creeps away from the galley deck, then swings away on a grappling hook.
3. The villain climbs up from the anchor bay, then deploys a thick smoke screen.
4. The villain creeps away from the galley deck, then blasts a giant water cannon.
5. The villain creeps away from the galley deck, then fires a bright signal flare.
6. The villain sneaks down from the crow's nest, then fires a bright signal flare.
7. The villain sneaks down from the crow's nest, then deploys a thick smoke screen.
8. The villain climbs up from the anchor bay, then swings away on a grappling hook.
9. The villain slips out of the captain's cabin, then blasts a giant water cannon.
10. The villain slips out of the captain's cabin, then fires a bright signal flare.
11. The villain escapes from the engine room, then deploys a thick smoke screen.
12. The villain sneaks down from the crow's nest, then swings away on a grappling hook.

Answer Key

The Mystery of the Santiana Flag

Culprit: Cove

Galley Deck · Signal Flare · Right-Handed Steerer · Blue Bandana · Sour Gummies

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DID NOT USE A SMOKE SCREEN"

$2494 + 4487 = 6981$ (T) · $2721 + 2969 = 5690$ (V) · $2716 + 1643 = 4359$ (M) · $1413 + 1621 = 3034$ (K) · $3621 + 2543 = 6164$ (R) · $2890 + 5065 = 7955$ (H) · $2821 + 5371 = 8192$ (O) · $1513 + 1600 = 3113$ (L) · $4958 + 3523 = 8481$ (U) · $4874 + 2282 = 7156$ (E) · $2569 + 3511 = 6080$ (C) · $5373 + 2809 = 8182$ (A) · $6004 + 3010 = 9014$ (D) · $2146 + 1433 = 3579$ (S) · $3258 + 4281 = 7539$ (I) · $6157 + 3468 = 9625$ (N)

Clue 2 (Subtraction): "THE RIGHT HAND GRABBED THE SHIP COMPASS"

$8430 - 3744 = 4686$ (T) · $6654 - 935 = 5719$ (S) · $10632 - 2568 = 8064$ (G) · $10728 - 3010 = 7718$ (R) · $10588 - 4194 = 6394$ (I) · $6702 - 260 = 6442$ (D) · $6466 - 4555 = 1911$ (M) · $13011 - 4387 = 8624$ (H) · $8788 - 1780 = 7008$ (E) · $3435 - 139 = 3296$ (P) · $6169 - 1341 = 4828$ (A) · $8605 - 2873 = 5732$ (C) · $9585 - 4739 = 4846$ (N) · $5472 - 47 = 5425$ (O) · $11785 - 4212 = 7573$ (B)

Clue 3 (Multiplication facts (1-12)): "SOUR GUMMY WRAPPERS WERE LEFT BY THE SAFE"

$6 \times 12 = 72$ (S) · $11 \times 9 = 99$ (E) · $3 \times 9 = 27$ (U) · $11 \times 6 = 66$ (R) · $12 \times 8 = 96$ (W) · $8 \times 11 = 88$ (P) · $3 \times 12 = 36$ (A) · $10 \times 5 = 50$ (H) · $12 \times 5 = 60$ (T) · $5 \times 7 = 35$ (F) · $4 \times 1 = 4$ (Y) · $11 \times 5 = 55$ (B) · $9 \times 2 = 18$ (O) · $9 \times 6 = 54$ (M) · $12 \times 10 = 120$ (G) · $8 \times 8 = 64$ (L)

Clue 4 (Fractions of a number): "A BLUE THREAD FROM A BANDANA WAS LEFT BEHIND"

$\frac{3}{6}$ of 34 = 17 (A) · $\frac{2}{6}$ of 60 = 20 (I) · $\frac{1}{4}$ of 60 = 15 (B) · $\frac{2}{10}$ of 170 = 34 (D) · $\frac{2}{6}$ of 6 = 2 (F) · $\frac{4}{5}$ of 35 = 28 (O) · $\frac{1}{5}$ of 160 = 32 (M) · $\frac{1}{6}$ of 60 = 10 (W) · $\frac{1}{8}$ of 192 = 24 (T) · $\frac{1}{2}$ of 8 = 4 (E) · $\frac{3}{5}$ of 5 = 3 (L) · $\frac{1}{2}$ of 50 = 25 (N) · $\frac{3}{4}$ of 36 = 27 (S) · $\frac{1}{6}$ of 174 = 29 (H) · $\frac{1}{6}$ of 96 = 16 (U) · $\frac{8}{10}$ of 50 = 40 (R)

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

$\frac{2}{6}$ of 3 = 1 · $\frac{4}{6}$ of 12 = 8 · $\frac{4}{10}$ of 30 = 12 · $\frac{1}{10}$ of 60 = 6 · $\frac{1}{6}$ of 12 = 2 · $\frac{2}{8}$ of 44 = 11 · $\frac{5}{10}$ of 8 = 4 · $\frac{3}{6}$ of 14 = 7 · $\frac{1}{10}$ of 30 = 3 · $\frac{3}{8}$ of 24 = 9 · $\frac{5}{10}$ of 20 = 10