



The Pearl Harbor Ship Mystery

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

Detective: _____ **Date:** _____

A priceless historic brass bell has been stolen from the main deck of the USS Missouri. The Chief Curator needs your help to search the historic battleship, decode clues, and find which crew member took the relic before the ship opens for visitors.

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 thief is _____

Possible suspects

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

NAME	DUTY STATION	SECURITY PASS	DOMINANT HAND	HAIRCUT STYLE	SUSPECT WEAKNESS
Historian Brooks	Deck Officer	Security Badge	Right-handed	High Fade	Loud Noises
Gunner Thompson	Steam Engineer	Master Keyring	Left-handed	Slick Back	Fear of Heights
Lieutenant Bell	Radio Operator	Security Badge	Right-handed	Slick Back	Fear of Heights
Navigator Fletcher	Deck Officer	Captains Decal	Right-handed	Slick Back	Fear of Heights
Lieutenant Vance	Radar Specialist	Master Keyring	Left-handed	Slick Back	Motion Sickness
Officer Mason	Steam Engineer	Security Badge	Right-handed	High Fade	Loud Noises
Commander Wright	Deck Officer	Captains Decal	Left-handed	Slick Back	Fear of Heights
Engineer Kowalski	Deck Officer	Maintenance Pass	Right-handed	Slick Back	Fear of Heights
Chief Petty Officer Davis	Steam Engineer	Brass Keycard	Right-handed	Slick Back	Loud Noises
Seaman Taylor	Signal Corps	Master Keyring	Right-handed	Slick Back	Loud Noises
Officer Bradley	Radar Specialist	Maintenance Pass	Right-handed	Slick Back	Fear of Heights
Curator Jenkins	Deck Officer	Captains Decal	Left-handed	Slick Back	Loud Noises
Seaman Carter	Radio Operator	Master Keyring	Left-handed	Slick Back	Fear of Heights
Engineer Reynolds	Signal Corps	Maintenance Pass	Right-handed	Slick Back	Loud Noises
Admiral Spruance	Signal Corps	Master Keyring	Right-handed	Slick Back	Fear of Heights
Gunner Henderson	Radio Operator	Brass Keycard	Left-handed	Buzz Cut	Loud Noises
Cadet Murphy	Radar Specialist	Maintenance Pass	Right-handed	High Fade	Fear of Heights
Commander Nimitz	Steam Engineer	Master Keyring	Left-handed	High Fade	Loud Noises
Captain Halsey	Deck Officer	Captains Decal	Left-handed	High Fade	Loud Noises
Sergeant Cooper	Steam Engineer	Maintenance Pass	Left-handed	Buzz Cut	Motion Sickness
Ensign Miller	Radar Specialist	Security Badge	Right-handed	Buzz Cut	Fear of Heights

CLUE 1 Addition

We found a logbook in the galley listing the boxes of supplies delivered today. To find out how many crew members were on duty, we must total all the boxes.

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

T			T											T				
2398	3879	4879	2398	3879	5287	4879	9198	8061	6586	4879	2288	5556	6586	2398	3879	7881	2502	4879

T						T									
2398	3879	4879	8363	7881	7868	2398	7881	5287	5556	2288	8061	4879	8363	7881	9852

1498 + 900 = → T	3491 + 4872 = → C	3004 + 6194 = → F
6099 + 3753 = → L	3330 + 2226 = → N	815 + 1473 = → S
1116 + 1386 = → V	1849 + 3438 = → I	4691 + 3370 = → D
3825 + 2761 = → O	5404 + 2464 = → P	5422 + 2459 = → A
2680 + 1199 = → H	1499 + 3380 = → E	

Scratch space:

Subtraction

The engine room steam pressure gauge dropped suddenly. We need to find the difference between the starting pressure and the ending pressure to see how much steam was lost.

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

[illegible]

$$5709 - 1883 = \boxed{} \rightarrow \mathbf{T}$$

$$8539 - 3499 = \boxed{} \rightarrow \boxed{}$$

$$10751 - 3562 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$7722 - 2335 = \boxed{} \rightarrow \mathbf{H}$$

$11698 - 3252 = \boxed{} \rightarrow \boxed{\text{D}}$

9809 - 1061 = → **P**

$$8007 - 2720 = \boxed{} \rightarrow \boxed{\text{N}}$$

$10396 - 4728 = \boxed{} \rightarrow \mathbf{G}$

$$3173 - 1885 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$6747 - 2266 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$8917 - 3206 = \boxed{} \rightarrow \boxed{\text{U}}$$

4984 - 2533 = → **A**

$$8834 - 3081 = \boxed{} \rightarrow \boxed{\text{C}}$$

Scratch space:

Multiplication facts (1-12)

An observer spotted several rows of signal flags hanging on the main mast. If we multiply the number of rows by the flags in each row, we can unlock the security cabinet.

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

Diagram showing the distribution of 140 items across 14 boxes. The boxes are arranged in two rows. The top row has 14 boxes, and the bottom row has 14 boxes. The values for the boxes are: Row 1: 14, 36, 20, 81, 72, 81, 21, 20, 10, 14, 56, 7, 88, 45, 80, 20, 80. Row 2: 36, 45, 44, 36, 5, 56, 81, 14. The boxes containing 14, 14, and 14 are highlighted in orange and labeled 'T'.

$2 \times 7 = \boxed{} \rightarrow \boxed{\text{T}}$

$3 \times 12 = \boxed{} \rightarrow \boxed{\text{H}}$

$9 \times 5 = \boxed{} \rightarrow \boxed{\text{I}}$

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

$$7 \times 3 = \boxed{} \rightarrow \boxed{\text{P}}$$

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

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

$$5 \times 4 = \boxed{} \rightarrow \boxed{\text{E}}$$

$9 \times 9 = \boxed{} \rightarrow \boxed{\mathbf{S}}$

$$8 \times 11 = \boxed{} \rightarrow \boxed{0}$$

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

$10 \times 1 = \boxed{} \rightarrow \boxed{\text{C}}$

$7 \times 8 = \boxed{} \rightarrow \boxed{\text{A}}$

$$5 \times 1 = \boxed{} \rightarrow \boxed{\text{M}}$$

Scratch space:

CLUE 4
Fractions of a number

Only a fraction of the ship's hundred emergency flashlights are currently fully charged. Calculating this exact fraction will help us pinpoint which storage locker was opened.

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

T																
34	35	27	31	28	27	2	27	35	40	14	28	32	20	39	27	14

31	17	15	28	37	35	40	15	18

$3/6 \text{ of } 68 = \square \rightarrow \boxed{\text{T}}$

$1/2 \text{ of } 28 = \square \rightarrow \boxed{\text{D}}$

$2/8 \text{ of } 112 = \square \rightarrow \boxed{\text{C}}$

$1/3 \text{ of } 93 = \square \rightarrow \boxed{\text{S}}$

$4/8 \text{ of } 34 = \square \rightarrow \boxed{\text{L}}$

$2/4 \text{ of } 64 = \square \rightarrow \boxed{\text{O}}$

$1/3 \text{ of } 81 = \square \rightarrow \boxed{\text{E}}$

$1/4 \text{ of } 160 = \square \rightarrow \boxed{\text{A}}$

$2/8 \text{ of } 156 = \square \rightarrow \boxed{\text{B}}$

$1/10 \text{ of } 180 = \square \rightarrow \boxed{\text{R}}$

$1/3 \text{ of } 105 = \square \rightarrow \boxed{\text{H}}$

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

$3/6 \text{ of } 74 = \square \rightarrow \boxed{\text{K}}$

$3/5 \text{ of } 25 = \square \rightarrow \boxed{\text{I}}$

$4/6 \text{ of } 30 = \square \rightarrow \boxed{\text{M}}$

Scratch space:

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

A box of spare brass rivets is partially empty. Finding the exact fraction of the remaining sixty rivets will reveal the combination to the captain's desk drawer.

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:

$2/10 \text{ of } 40 = \boxed{}$

$3/6 \text{ of } 10 = \boxed{}$

$2/10 \text{ of } 20 = \boxed{}$

$4/10 \text{ of } 5 = \boxed{}$

$6/10 \text{ of } 15 = \boxed{}$

$1/3 \text{ of } 21 = \boxed{}$

$4/8 \text{ of } 20 = \boxed{}$

$3/10 \text{ of } 40 = \boxed{}$

$3/10 \text{ of } 20 = \boxed{}$

$2/10 \text{ of } 55 = \boxed{}$

$1/5 \text{ of } 15 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain bypassed the boiler room lock, then then hurried past the officer quarters.
2. The villain tapped into the radio transmitter, then then escaped via the lower gangway.
3. The villain snuck through the gun turret hatch, then then locked the engine room door.
4. The villain tapped into the radio transmitter, then then locked the engine room door.
5. The villain climbed the teak wood deck, then then hurried past the officer quarters.
6. The villain climbed the teak wood deck, then then locked the engine room door.
7. The villain snuck through the gun turret hatch, then then escaped via the lower gangway.
8. The villain snuck through the gun turret hatch, then then dropped a brass flashlight.
9. The villain disabled the main radar screen, then then escaped via the lower gangway.
10. The villain bypassed the boiler room lock, then then escaped via the lower gangway.
11. The villain bypassed the boiler room lock, then then fled toward the observation deck.
12. The villain climbed the teak wood deck, then then dropped a brass flashlight.

Answer Key

The Pearl Harbor Ship Mystery

Culprit: Officer Bradley

Radar Specialist · Maintenance Pass · Right-handed · Slick Back · Fear of Heights

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT HAVE THE CAPTAINS DECAL"

$1498 + 900 = 2398$ (T) · $3491 + 4872 = 8363$ (C) · $3004 + 6194 = 9198$ (F) · $6099 + 3753 = 9852$ (L) · $3330 + 2226 = 5556$ (N) · $815 + 1473 = 2288$ (S) · $1116 + 1386 = 2502$ (V) · $1849 + 3438 = 5287$ (I) · $4691 + 3370 = 8061$ (D) · $3825 + 2761 = 6586$ (O) · $5404 + 2464 = 7868$ (P) · $5422 + 2459 = 7881$ (A) · $2680 + 1199 = 3879$ (H) · $1499 + 3380 = 4879$ (E)

Clue 2 (Subtraction): "THE SUSPECT USED THEIR RIGHT HAND"

$5709 - 1883 = 3826$ (T) · $8539 - 3499 = 5040$ (I) · $10751 - 3562 = 7189$ (R) · $7722 - 2335 = 5387$ (H) · $11698 - 3252 = 8446$ (D) · $9809 - 1061 = 8748$ (P) · $8007 - 2720 = 5287$ (N) · $10396 - 4728 = 5668$ (G) · $3173 - 1885 = 1288$ (E) · $6747 - 2266 = 4481$ (S) · $8917 - 3206 = 5711$ (U) · $4984 - 2533 = 2451$ (A) · $8834 - 3081 = 5753$ (C)

Clue 3 (Multiplication facts (1-12)): "THE SUSPECT AVOIDED THE HIGH MAST"

$2 \times 7 = 14$ (T) · $3 \times 12 = 36$ (H) · $9 \times 5 = 45$ (I) · $9 \times 8 = 72$ (U) · $7 \times 3 = 21$ (P) · $10 \times 8 = 80$ (D) · $4 \times 11 = 44$ (G) · $5 \times 4 = 20$ (E) · $9 \times 9 = 81$ (S) · $8 \times 11 = 88$ (O) · $1 \times 7 = 7$ (V) · $10 \times 1 = 10$ (C) · $7 \times 8 = 56$ (A) · $5 \times 1 = 5$ (M)

Clue 4 (Fractions of a number): "THE SCENE HAD COMBED SLICK HAIR"

$\frac{3}{6}$ of 68 = 34 (T) · $\frac{1}{2}$ of 28 = 14 (D) · $\frac{2}{8}$ of 112 = 28 (C) · $\frac{1}{3}$ of 93 = 31 (S) · $\frac{4}{8}$ of 34 = 17 (L) · $\frac{2}{4}$ of 64 = 32 (O) · $\frac{1}{3}$ of 81 = 27 (E) · $\frac{1}{4}$ of 160 = 40 (A) · $\frac{2}{8}$ of 156 = 39 (B) · $\frac{1}{10}$ of 180 = 18 (R) · $\frac{1}{3}$ of 105 = 35 (H) · $\frac{1}{4}$ of 8 = 2 (N) · $\frac{3}{6}$ of 74 = 37 (K) · $\frac{3}{5}$ of 25 = 15 (I) · $\frac{4}{6}$ of 30 = 20 (M)

Clue 5 (Fractions of a number): surviving statement is box 1 → Officer Bradley

$\frac{2}{10}$ of 40 = 8 · $\frac{3}{6}$ of 10 = 5 · $\frac{2}{10}$ of 20 = 4 · $\frac{4}{10}$ of 5 = 2 · $\frac{6}{10}$ of 15 = 9 · $\frac{1}{3}$ of 21 = 7 · $\frac{4}{8}$ of 20 = 10 · $\frac{3}{10}$ of 40 = 12 · $\frac{3}{10}$ of 20 = 6 · $\frac{2}{10}$ of 55 = 11 · $\frac{1}{5}$ of 15 = 3