



The Mystery of the Battleship Blueprint

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

Detective: _____ Date: _____

A mystery has docked at the USS Alabama! Someone has scrambled the battleship's historic engine room blueprints. The Ship Historian needs your help to decode the clues, track down the culprit among the visiting crew, and restore the legendary battleship's records.

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 Phantom Saboteur 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	GEAR CARRIED	COMPASS TYPE	UNIFORM HEADWEAR	VULNERABILITY
Ensign Brooks	Signal Officer	Brass Calipers	Brass Compass	Dark Watch Cap	Static Noise
Ensign Baker	Deck Petty Officer	Heavy Wrenches	Brass Compass	White Sailor Cap	Bright Searchlights
Sentry Thompson	Helmsman	Heavy Wrenches	Brass Compass	Gold Officer Hat	Static Noise
Navigator Evans	Deck Petty Officer	Heavy Wrenches	Silver Compass	Dark Watch Cap	Loud Foghorns
Officer Mitchell	Helmsman	Signal Flags	Brass Compass	Dark Watch Cap	Bright Searchlights
Radio Operator Bell	Signal Officer	Code Books	Brass Compass	White Sailor Cap	Static Noise
Seaman Carter	Helmsman	Brass Calipers	Brass Compass	Dark Watch Cap	Static Noise
Lieutenant King	Engine Mechanic	Code Books	Silver Compass	White Sailor Cap	Static Noise
Captain Wright	Engine Mechanic	Hand Radios	Brass Compass	Dark Watch Cap	Loud Foghorns
Seaman Watson	Helmsman	Heavy Wrenches	Silver Compass	White Sailor Cap	Loud Foghorns
Navigator Gray	Helmsman	Signal Flags	Silver Compass	Dark Watch Cap	Static Noise
Pilot Collins	Radar Operator	Hand Radios	Brass Compass	White Sailor Cap	Bright Searchlights
Commander Davis	Deck Petty Officer	Heavy Wrenches	Brass Compass	White Sailor Cap	Loud Foghorns
Lieutenant Vance	Radar Operator	Heavy Wrenches	Brass Compass	White Sailor Cap	Bright Searchlights
Chief Petty Taylor	Signal Officer	Hand Radios	Brass Compass	White Sailor Cap	Static Noise
Commander Turner	Radar Operator	Code Books	Brass Compass	Gold Officer Hat	Static Noise
Pilot Adams	Signal Officer	Brass Calipers	Brass Compass	White Sailor Cap	Static Noise
Gunner Perry	Engine Mechanic	Signal Flags	Silver Compass	White Sailor Cap	Static Noise
Officer Morris	Radar Operator	Signal Flags	Brass Compass	White Sailor Cap	Static Noise
Engineer Murphy	Helmsman	Code Books	Silver Compass	White Sailor Cap	Bright Searchlights
Officer Harris	Engine Mechanic	Code Books	Brass Compass	White Sailor Cap	Static Noise

CLUE 1

An encrypted message flashed on the engine room's old digital terminal. The security code depends on recognizing the value of the digit in the tens place on the control panel.

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

500 900 30 80 200 4000 5000 500 30 700 300 3000 5000 30 80 40 5000 500

900 200 60 30 900 200 40 3000 300 200 3000 7000 5000 80

What is the value of the 5 in 69,506? → **T**

What is the value of the 6 in 84,462? → **V**

What is the value of the 3 in 543,478? → **D**

What is the value of the 3 in 148,736? → **E**

What is the value of the 8 in 131,385? → **S**

What is the value of the 3 in 17,327? → **R**

What is the value of the 7 in 267,930? →

What is the value of the 9 in 288,968? → **H**

What is the value of the 4 in 62,541? → **N**

What is the value of the 4 in 924,901? → **B**

What is the value of the 7 in 688,743? → **U**

What is the value of the 2 in 81,289? → **A**

What is the value of the 5 in 45,724? → ☐

Scratch space:

CLUE 2 **Addition**

We need to count the spare rivets and bolts left on the assembly deck. Adding these metal supplies together will unlock the radio locker's combination lock.

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

W														
7054	7571	5575	5322	3467	3264	7951	5633	6581	6153	5633	3433	3433		
9211	5322	5323	4251	5633	3433	3433	5322	3264	7951	7571	9211	9473		

$3920 + 3134 = \square \rightarrow \text{W}$

$3596 + 2037 = \square \rightarrow \text{A}$

$2703 + 3450 = \square \rightarrow \text{R}$

$5054 + 4157 = \square \rightarrow \text{C}$

$5116 + 4357 = \square \rightarrow \text{K}$

$3125 + 2450 = \square \rightarrow \text{F}$

$1634 + 1799 = \square \rightarrow \text{S}$

$3465 + 1858 = \square \rightarrow \text{M}$

$1483 + 1781 = \square \rightarrow \text{N}$

$2998 + 3583 = \square \rightarrow \text{B}$

$3391 + 4180 = \square \rightarrow \text{E}$

$1822 + 2429 = \square \rightarrow \text{P}$

$3707 + 1615 = \square \rightarrow \text{O}$

$3654 + 4297 = \square \rightarrow \text{D}$

$1435 + 2032 = \square \rightarrow \text{U}$

Scratch space:

CLUE 3
Subtraction

The fuel gauge in the boiler room shows a sudden drop. Subtract the leaked gallons from the original total to find out how much diesel the saboteur let slip.

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

S									S								
3241	8300	6681	8300	1398	1517	3475	7895	1398	3241	1947	6597	5782	7895	1517	2391	1947	4397

								S			S	
8300	7940	1947	1398	2272	8300	2272	6681	3475	3241	1398	8300	3241

$6499 - 3258 = \square \rightarrow \boxed{\text{S}}$

$4337 - 862 = \square \rightarrow \boxed{\text{N}}$

$2962 - 1445 = \square \rightarrow \boxed{\text{C}}$

$8847 - 907 = \square \rightarrow \boxed{\text{H}}$

$9823 - 1523 = \square \rightarrow \boxed{\text{T}}$

$3619 - 1672 = \square \rightarrow \boxed{\text{E}}$

$3014 - 742 = \square \rightarrow \boxed{\text{R}}$

$5048 - 3650 = \square \rightarrow \boxed{\text{I}}$

$6196 - 3805 = \square \rightarrow \boxed{\text{K}}$

$8068 - 173 = \square \rightarrow \boxed{\text{O}}$

$9292 - 3510 = \square \rightarrow \boxed{\text{L}}$

$9397 - 5000 = \square \rightarrow \boxed{\text{D}}$

$11436 - 4839 = \square \rightarrow \boxed{\text{B}}$

$10877 - 4196 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 4
Multiplication facts (1-12)

The ship's cargo hold has several rows of heavy ammo crates. Multiply the number of rows by the crates in each row to find the total weight and clear the pathway.

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

A							A						A			A	
6	100	27	60	15	54	21	6	60	3	110	2	30	6	14	100	6	21
3	54	36	15	56	54	27	60	32	70								

$2 \times 3 = \square \rightarrow \text{A}$

$11 \times 10 = \square \rightarrow \text{O}$

$12 \times 3 = \square \rightarrow \text{F}$

$8 \times 4 = \square \rightarrow \text{N}$

$8 \times 7 = \square \rightarrow \text{B}$

$3 \times 1 = \square \rightarrow \text{L}$

$6 \times 5 = \square \rightarrow \text{C}$

$5 \times 3 = \square \rightarrow \text{T}$

$7 \times 3 = \square \rightarrow \text{S}$

$10 \times 10 = \square \rightarrow \text{W}$

$2 \times 1 = \square \rightarrow \text{R}$

$2 \times 7 = \square \rightarrow \text{P}$

$12 \times 5 = \square \rightarrow \text{I}$

$6 \times 9 = \square \rightarrow \text{E}$

$10 \times 7 = \square \rightarrow \text{D}$

$3 \times 9 = \square \rightarrow \text{H}$

Scratch space:

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

Only a fraction of the battleship's backup generators are currently online. Calculate the exact number of active generators to restore power to the main bridge.

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:

$2/8 \text{ of } 4 = \boxed{}$

$1/2 \text{ of } 8 = \boxed{}$

$2/10 \text{ of } 25 = \boxed{}$

$1/8 \text{ of } 16 = \boxed{}$

$1/4 \text{ of } 40 = \boxed{}$

$2/10 \text{ of } 30 = \boxed{}$

$6/10 \text{ of } 5 = \boxed{}$

$2/4 \text{ of } 16 = \boxed{}$

$3/8 \text{ of } 32 = \boxed{}$

$1/5 \text{ of } 35 = \boxed{}$

$2/8 \text{ of } 36 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain unplugged the main radar console, then fled across the teak deck.
2. The villain hid the ship logbooks under a hatch, then locked the hatch behind them.
3. The villain swiped the engine room schematics, then fled across the teak deck.
4. The villain hid the ship logbooks under a hatch, then ran toward the bow of the ship.
5. The villain hid the ship logbooks under a hatch, then fled across the teak deck.
6. The villain unplugged the main radar console, then escaped down the ladder well.
7. The villain tampered with the propeller shaft dials, then escaped down the ladder well.
8. The villain scrambled the radio tower frequencies, then ran toward the bow of the ship.
9. The villain unplugged the main radar console, then ran toward the bow of the ship.
10. The villain tampered with the propeller shaft dials, then locked the hatch behind them.
11. The villain swiped the engine room schematics, then escaped down the ladder well.
12. The villain unplugged the main radar console, then locked the hatch behind them.

Answer Key

The Mystery of the Battleship Blueprint

Culprit: Officer Morris

Radar Operator · Signal Flags · Brass Compass · White Sailor Cap · Static Noise

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SABOTEUR DOES NOT HAVE HAND RADIOS"

What is the value of the 5 in 69,506? = 500 (T) · What is the value of the 6 in 84,462? = 60 (V) · What is the value of the 3 in 543,478? = 3000 (D) · What is the value of the 3 in 148,736? = 30 (E) · What is the value of the 8 in 131,385? = 80 (S) · What is the value of the 3 in 17,327? = 300 (R) · What is the value of the 7 in 267,930? = 7000 (I) · What is the value of the 9 in 288,968? = 900 (H) · What is the value of the 4 in 62,541? = 40 (N) · What is the value of the 4 in 924,901? = 4000 (B) · What is the value of the 7 in 688,743? = 700 (U) · What is the value of the 2 in 81,289? = 200 (A) · What is the value of the 5 in 45,724? = 5000 (O)

Clue 2 (Addition): "WE FOUND A BRASS COMPASS ON DECK"

$3920 + 3134 = 7054$ (W) · $3596 + 2037 = 5633$ (A) · $2703 + 3450 = 6153$ (R) · $5054 + 4157 = 9211$ (C) · $5116 + 4357 = 9473$ (K) · $3125 + 2450 = 5575$ (F) · $1634 + 1799 = 3433$ (S) · $3465 + 1858 = 5323$ (M) · $1483 + 1781 = 3264$ (N) · $2998 + 3583 = 6581$ (B) · $3391 + 4180 = 7571$ (E) · $1822 + 2429 = 4251$ (P) · $3707 + 1615 = 5322$ (O) · $3654 + 4297 = 7951$ (D) · $1435 + 2032 = 3467$ (U)

Clue 3 (Subtraction): "STATIC NOISE BLOCKED THEIR TRANSITS"

$6499 - 3258 = 3241$ (S) · $4337 - 862 = 3475$ (N) · $2962 - 1445 = 1517$ (C) · $8847 - 907 = 7940$ (H) · $9823 - 1523 = 8300$ (T) · $3619 - 1672 = 1947$ (E) · $3014 - 742 = 2272$ (R) · $5048 - 3650 = 1398$ (I) · $6196 - 3805 = 2391$ (K) · $8068 - 173 = 7895$ (O) · $9292 - 3510 = 5782$ (L) · $9397 - 5000 = 4397$ (D) · $11436 - 4839 = 6597$ (B) · $10877 - 4196 = 6681$ (A)

Clue 4 (Multiplication facts (1-12)): "A WHITE SAILOR CAP WAS LEFT BEHIND"

$2 \times 3 = 6$ (A) · $11 \times 10 = 110$ (O) · $12 \times 3 = 36$ (F) · $8 \times 4 = 32$ (N) · $8 \times 7 = 56$ (B) · $3 \times 1 = 3$ (L) · $6 \times 5 = 30$ (C) · $5 \times 3 = 15$ (T) · $7 \times 3 = 21$ (S) · $10 \times 10 = 100$ (W) · $2 \times 1 = 2$ (R) · $2 \times 7 = 14$ (P) · $12 \times 5 = 60$ (I) · $6 \times 9 = 54$ (E) · $10 \times 7 = 70$ (D) · $3 \times 9 = 27$ (H)

Clue 5 (Fractions of a number): surviving statement is box 11 → Officer Morris

$\frac{2}{8}$ of 4 = 1 · $\frac{1}{2}$ of 8 = 4 · $\frac{2}{10}$ of 25 = 5 · $\frac{1}{8}$ of 16 = 2 · $\frac{1}{4}$ of 40 = 10 · $\frac{2}{10}$ of 30 = 6 · $\frac{6}{10}$ of 5 = 3 · $\frac{2}{4}$ of 16 = 8 · $\frac{3}{8}$ of 32 = 12 · $\frac{1}{5}$ of 35 = 7 · $\frac{2}{8}$ of 36 = 9