



Sabotage on the Saniana

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

Detective: _____ Date: _____

The Saniana is in red alert! An unknown saboteur has locked the main engines. Captain Joshua Dax Zeno needs you to crack the codes and unmask the rogue cadet before the ship drifts into the asteroid belt.

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 saboteur is _____

Possible suspects

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

NAME	BATTLE STATION	TACTICAL GEAR	WRITING HAND	HELMET STYLE	TOY DISTRACTION
Cadet Reed	Laser Turret	Blast Shield	Left Handed	Visor Raised	Bubble Blasters
Cadet Flint	Laser Turret	Walkie Talkie	Left Handed	Visor Lowered	Squeaky Toys
Cadet Nyx	Engine Room	Walkie Talkie	Right Handed	Visor Raised	Bubble Blasters
Cadet Chase	Radar Dome	Blast Shield	Left Handed	Visor Lowered	Foam Darts
Cadet Vega	Bridge Control	Laser Pointer	Right Handed	No Helmet	Squeaky Toys
Cadet Gemma	Bridge Control	Grappling Hook	Right Handed	No Helmet	Bubble Blasters
Cadet Astra	Flight Deck	Grappling Hook	Right Handed	No Helmet	Bubble Blasters
Cadet Jett	Laser Turret	Blast Shield	Right Handed	Visor Lowered	Foam Darts
Cadet Ryder	Bridge Control	Blast Shield	Right Handed	Visor Lowered	Squeaky Toys
Cadet Echo	Radar Dome	Rocket Boots	Right Handed	No Helmet	Squeaky Toys
Cadet Leo	Radar Dome	Blast Shield	Left Handed	Visor Lowered	Bubble Blasters
Cadet Nova	Radar Dome	Walkie Talkie	Right Handed	Visor Raised	Foam Darts
Cadet Skye	Laser Turret	Blast Shield	Right Handed	No Helmet	Foam Darts
Cadet Zev	Engine Room	Blast Shield	Right Handed	Visor Lowered	Squeaky Toys
Cadet Hugo	Laser Turret	Blast Shield	Left Handed	Visor Lowered	Bubble Blasters
Cadet Pax	Engine Room	Rocket Boots	Right Handed	Visor Lowered	Foam Darts
Cadet Bolt	Laser Turret	Laser Pointer	Right Handed	Visor Lowered	Bubble Blasters
Cadet Orion	Bridge Control	Blast Shield	Right Handed	Visor Lowered	Foam Darts
Cadet Milo	Engine Room	Walkie Talkie	Right Handed	Visor Lowered	Foam Darts
Cadet Lyra	Laser Turret	Grappling Hook	Right Handed	Visor Lowered	Foam Darts
Cadet Jax	Laser Turret	Blast Shield	Right Handed	No Helmet	Squeaky Toys

CLUE 1

Captain Joshua Dax Zeno needs to count the emergency rations left in storage. Add the crates of space biscuits to the crates of freeze-dried apples to find our first coordinate.

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

Diagram illustrating the sequence of numbers and the positions of 'T' numbers (shaded orange boxes):

Row 1: 8833, 4166, 6707, 4306, 5733, 8028, 6707, 8833, 8028, 4839, 6707, 9632, 3786, 4839, 8833, 4418, 9632, 6707

Row 2: 7061, 4839, 4306, 9448, 6707, 8833, 5300, 4839, 4839, 8833, 9632

The 'T' numbers are located at positions 1, 7, 13, and 10 in the sequence.

$$4291 + 4542 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$3064 + 3643 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$2133 + 1653 = \boxed{} \rightarrow \boxed{\text{N}}$$

$5027 + 3001 = \boxed{} \rightarrow \boxed{\text{D}}$

$$5992 + 3640 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$2773 + 2960 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$2236 + 1930 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3713 + 5735 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$3554 + 1746 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$1530 + 2776 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$1677 + 3162 = \boxed{} \rightarrow \boxed{0}$$

$$1655 + 2763 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4467 + 2594 = \boxed{} \rightarrow \boxed{\text{R}}$$

Scratch space:

CLUE 2 Subtraction

The Saniana is taking on space water from a leaky pipe in the cargo hold. Subtract the gallons pumped out from the total leak to see how much water remains.

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

T 7090	1917	3420	6363	5622	6363	6459	3420	7162	T 7090	5533	8253	3672	T 7090	3420	5533	3267	T 7090	1917
T 7090	1917	3420	8253	3267	6620	T 7090	1917	7090	1917	2372	8002	7900						

$11775 - 4685 = \square \rightarrow \boxed{\text{T}}$

$8470 - 1850 = \square \rightarrow \boxed{\text{G}}$

$10396 - 2496 = \square \rightarrow \boxed{\text{D}}$

$12494 - 4492 = \square \rightarrow \boxed{\text{N}}$

$5834 - 2162 = \square \rightarrow \boxed{\text{O}}$

$8415 - 2793 = \square \rightarrow \boxed{\text{U}}$

$6869 - 4497 = \square \rightarrow \boxed{\text{A}}$

$7759 - 597 = \square \rightarrow \boxed{\text{C}}$

$9927 - 4394 = \square \rightarrow \boxed{\text{W}}$

$8655 - 2196 = \square \rightarrow \boxed{\text{P}}$

$6251 - 2984 = \square \rightarrow \boxed{\text{I}}$

$10250 - 3887 = \square \rightarrow \boxed{\text{S}}$

$11010 - 2757 = \square \rightarrow \boxed{\text{R}}$

$3583 - 163 = \square \rightarrow \boxed{\text{E}}$

$3852 - 1935 = \square \rightarrow \boxed{\text{H}}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

We need to pack energy cells into the defense grid launcher. Multiply the number of rows by the number of cells in each row to find the power level.

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

T								T											
30	77	84	28	96	35	84	30	2	96	10	64	55	144	45	84	35	81	60	

							T	
64	55	96	132	35	96	25	30	10

$5 \times 6 = \square \rightarrow$ T	$12 \times 12 = \square \rightarrow$ I	$4 \times 7 = \square \rightarrow$ C	
$1 \times 2 = \square \rightarrow$ W	$5 \times 9 = \square \rightarrow$ L	$7 \times 12 = \square \rightarrow$ E	$5 \times 7 = \square \rightarrow$ D
$5 \times 5 = \square \rightarrow$ R	$8 \times 8 = \square \rightarrow$ F	$11 \times 12 = \square \rightarrow$ M	
$8 \times 12 = \square \rightarrow$ A	$7 \times 11 = \square \rightarrow$ H	$11 \times 5 = \square \rightarrow$ O	
$9 \times 9 = \square \rightarrow$ B	$10 \times 1 = \square \rightarrow$ S	$10 \times 6 = \square \rightarrow$ Y	

Scratch space:

CLUE 4

Fractions of a number

The radar sweep detected a cluster of rogue scrap metal blocking our path. Find the fraction of the scrap that we need to target with our lasers to clear the way safely.

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

T																			
34	3	21	40	33	10	21	34	3	33	10	33	8	36	39	21	17	21	10	
14	38	12	36	17															

$$4/8 \text{ of } 68 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2/10 \text{ of } 85 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$2/4 \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$6/8 \text{ of } 44 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$1/3 \text{ of } 108 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$1/5 \text{ of } 50 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$1/8 \text{ of } 24 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3/6 \text{ of } 80 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$1/4 \text{ of } 152 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$1/10 \text{ of } 140 = \boxed{} \rightarrow \boxed{\text{V}}$$

$$4/8 \text{ of } 16 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$5/10 \text{ of } 24 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$1/3 \text{ of } 117 = \boxed{} \rightarrow \boxed{\text{W}}$$

Scratch space:

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

Our robotic defense bots need a battery charge to patrol the lower decks. Calculate the fractional share of the remaining energy cells each bot will receive.

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:

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

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

$2/6 \text{ of } 33 = \boxed{}$

$1/8 \text{ of } 72 = \boxed{}$

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

$1/6 \text{ of } 72 = \boxed{}$

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

$2/4 \text{ of } 20 = \boxed{}$

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

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

$2/4 \text{ of } 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain hijacked the central bridge computer, then blasted down the corridor using rocket boots.
2. The villain scrambled the targeting scanners, then blocked the doorway with a blast shield.
3. The villain disabled the hyperdrive core, then escaped up the elevator shaft with a grappling hook.
4. The villain scrambled the targeting scanners, then taunted the crew over a walkie talkie.
5. The villain hijacked the central bridge computer, then taunted the crew over a walkie talkie.
6. The villain hijacked the central bridge computer, then blocked the doorway with a blast shield.
7. The villain drained the backup power batteries, then taunted the crew over a walkie talkie.
8. The villain drained the backup power batteries, then escaped up the elevator shaft with a grappling hook.
9. The villain hijacked the central bridge computer, then blinded the security cameras with a laser pointer.
10. The villain disabled the hyperdrive core, then blinded the security cameras with a laser pointer.
11. The villain scrambled the targeting scanners, then escaped up the elevator shaft with a grappling hook.
12. The villain scrambled the targeting scanners, then blasted down the corridor using rocket boots.

Answer Key

Sabotage on the Saniana

Culprit: Cadet Milo

Engine Room · Walkie Talkie · Right Handed · Visor Lowered · Foam Darts

Trail: Start 21 → Clue 1 19 → Clue 2 14 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CADET DOES NOT USE ROCKET BOOTS"

$4291 + 4542 = 8833$ (T) · $3064 + 3643 = 6707$ (E) · $2133 + 1653 = 3786$ (N) · $5027 + 3001 = 8028$ (D) · $5992 + 3640 = 9632$ (S) · $2773 + 2960 = 5733$ (A) · $2236 + 1930 = 4166$ (H) · $3713 + 5735 = 9448$ (K) · $3554 + 1746 = 5300$ (B) · $1530 + 2776 = 4306$ (C) · $1677 + 3162 = 4839$ (O) · $1655 + 2763 = 4418$ (U) · $4467 + 2594 = 7061$ (R)

Clue 2 (Subtraction): "THE SUSPECT WROTE WITH THE RIGHT HAND"

$11775 - 4685 = 7090$ (T) · $8470 - 1850 = 6620$ (G) · $10396 - 2496 = 7900$ (D) · $12494 - 4492 = 8002$ (N) · $5834 - 2162 = 3672$ (O) · $8415 - 2793 = 5622$ (U) · $6869 - 4497 = 2372$ (A) · $7759 - 597 = 7162$ (C) · $9927 - 4394 = 5533$ (W) · $8655 - 2196 = 6459$ (P) · $6251 - 2984 = 3267$ (I) · $10250 - 3887 = 6363$ (S) · $11010 - 2757 = 8253$ (R) · $3583 - 163 = 3420$ (E) · $3852 - 1935 = 1917$ (H)

Clue 3 (Multiplication facts (1-12)): "THE CADET WAS FOILED BY FOAM DARTS"

$5 \times 6 = 30$ (T) · $12 \times 12 = 144$ (I) · $4 \times 7 = 28$ (C) · $1 \times 2 = 2$ (W) · $5 \times 9 = 45$ (L) · $7 \times 12 = 84$ (E) · $5 \times 7 = 35$ (D) · $5 \times 5 = 25$ (R) · $8 \times 8 = 64$ (F) · $11 \times 12 = 132$ (M) · $8 \times 12 = 96$ (A) · $7 \times 11 = 77$ (H) · $11 \times 5 = 55$ (O) · $9 \times 9 = 81$ (B) · $10 \times 1 = 10$ (S) · $10 \times 6 = 60$ (Y)

Clue 4 (Fractions of a number): "THE CADET HAD A LOWERED VISOR"

$4/8$ of 68 = 34 (T) · $2/10$ of 85 = 17 (R) · $2/4$ of 42 = 21 (E) · $6/8$ of 44 = 33 (A) · $1/3$ of 108 = 36 (O) · $1/5$ of 50 = 10 (D) · $1/8$ of 24 = 3 (H) · $3/6$ of 80 = 40 (C) · $1/4$ of 152 = 38 (I) · $1/10$ of 140 = 14 (V) · $4/8$ of 16 = 8 (L) · $5/10$ of 24 = 12 (S) · $1/3$ of 117 = 39 (W)

Clue 5 (Fractions of a number): surviving statement is box 7 → Cadet Milo

$2/10$ of 30 = 6 · $4/8$ of 4 = 2 · $2/6$ of 33 = 11 · $1/8$ of 72 = 9 · $3/10$ of 10 = 3 · $1/6$ of 72 = 12 · $2/8$ of 4 = 1 · $2/4$ of 20 = 10 · $2/10$ of 40 = 8 · $4/8$ of 8 = 4 · $2/4$ of 10 = 5