The Midnight Zone Mystery

Grade 6 math · Multiplication, Percentages, Exponents, Order of operations, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

A rogue diver has snuck into the Deep-Sea Vault and stolen the legendary Golden Pearl of Atlantis! The Chief Oceanographer needs your help to decode the clues and catch the thief before they escape into the deep ocean trenches.

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 diver is _____

Possible suspects

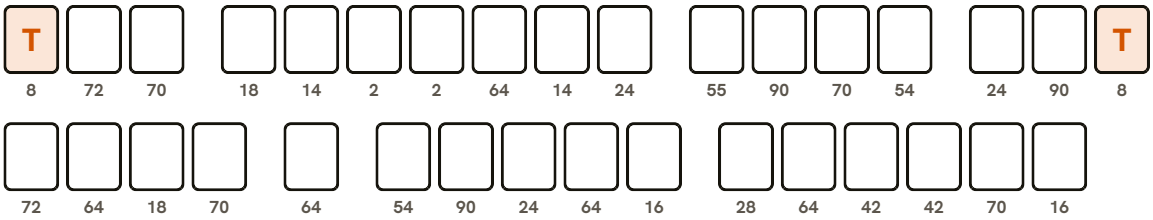
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	DIVING SUIT GEAR	SUBMARINE UPGRADE	DOMINANT HAND	HAIR COLOR	GEAR WEAKNESS
Roald Amundsen	plasma cutting torch	electric hull shield	left handed swimmer	bright blue hair	cluttered air lines
Jeanne Villepreux	plasma cutting torch	laser spotlight	right handed swimmer	neon pink hair	cluttered air lines
Ferdinand Magellan	heavy drill arm	electric hull shield	right handed swimmer	sunset orange hair	cluttered air lines
Mary Read	turbo thrusters	stealth camouflage	left handed swimmer	neon pink hair	leaky helmet seal
Matthew Henson	turbo thrusters	laser spotlight	right handed swimmer	sunset orange hair	cluttered air lines
William Beebe	heavy drill arm	sonar jammer	right handed swimmer	sunset orange hair	cluttered air lines
Anne Bonny	harpoon launcher	laser spotlight	left handed swimmer	sunset orange hair	cluttered air lines
Leif Erikson	harpoon launcher	super speed propeller	right handed swimmer	sunset orange hair	cluttered air lines
Jim Hawkins	heavy drill arm	electric hull shield	left handed swimmer	neon pink hair	sandy thruster fan
Captain Nemo	plasma cutting torch	stealth camouflage	right handed swimmer	bright blue hair	sandy thruster fan
James Cook	turbo thrusters	laser spotlight	right handed swimmer	neon pink hair	leaky helmet seal
Steve Zissou	turbo thrusters	super speed propeller	left handed swimmer	sunset orange hair	leaky helmet seal
Peter Benchley	mechanical claw	stealth camouflage	left handed swimmer	sunset orange hair	sandy thruster fan
David Attenborough	plasma cutting torch	stealth camouflage	right handed swimmer	bright blue hair	cluttered air lines
Robert Ballard	mechanical claw	super speed propeller	right handed swimmer	sunset orange hair	sandy thruster fan
Jeanne Baret	turbo thrusters	electric hull shield	right handed swimmer	sunset orange hair	cluttered air lines
Grace OMalley	plasma cutting torch	electric hull shield	right handed swimmer	sunset orange hair	leaky helmet seal
Captain Ahab	heavy drill arm	super speed propeller	right handed swimmer	neon pink hair	cluttered air lines
Ernest Shackleton	harpoon launcher	super speed propeller	right handed swimmer	sunset orange hair	leaky helmet seal
James Cameron	mechanical claw	super speed propeller	right handed swimmer	neon pink hair	cluttered air lines
Sylvia Earle	heavy drill arm	sonar jammer	right handed swimmer	bright blue hair	cluttered air lines

CLUE 1 Multiplication facts (1-12)

> We are analyzing rows of locked storage lockers in the sub-dock. Multiply the number of rows by the locker count to find the vault code.

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



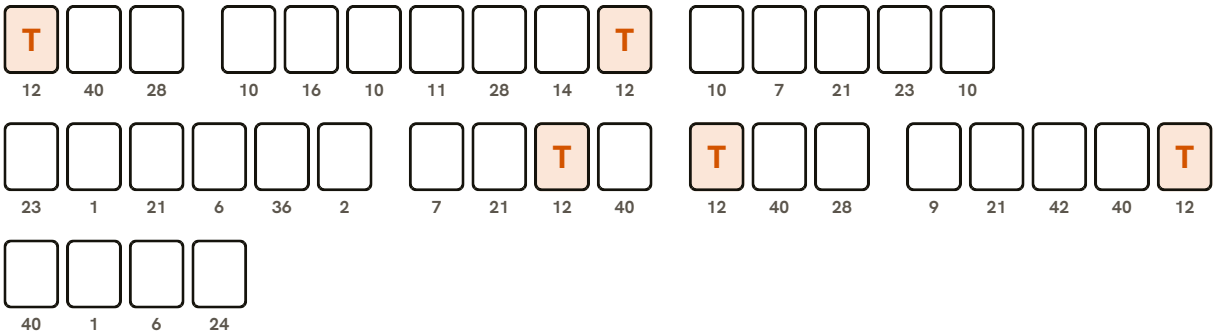
2 × 4 = ☐ → T	6 × 4 = ☐ → N	6 × 9 = ☐ → S	6 × 7 = ☐ → M
2 × 1 = ☐ → L	7 × 10 = ☐ → E	4 × 7 = ☐ → J	9 × 2 = ☐ → V
10 × 9 = ☐ → O	2 × 8 = ☐ → R	7 × 2 = ☐ → I	
12 × 6 = ☐ → H	8 × 8 = ☐ → A	11 × 5 = ☐ → D	

Scratch space:

CLUE 2 Percentages

> The station's backup battery is draining quickly. Calculate the remaining percentage of power to keep the security terminal online.

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



50% of 24 = ☐ → T

25% of 44 = ☐ → P

10% of 10 = ☐ → A

25% of 84 = ☐ → I

50% of 48 = ☐ → D

10% of 400 = ☐ → H

10% of 160 = ☐ → U

25% of 28 = ☐ → W

60% of 60 = ☐ → L

25% of 36 = ☐ → R

5% of 40 = ☐ → Y

5% of 200 = ☐ → S

20% of 115 = ☐ → M

25% of 56 = ☐ → C

25% of 112 = ☐ → E

75% of 56 = ☐ → G

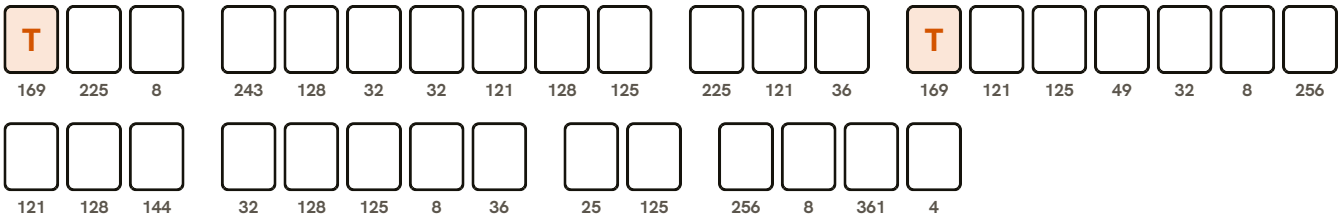
50% of 12 = ☐ → N

Scratch space:

CLUE 3 Exponents

> The sub's radar grid expands exponentially with each ping. Figure out the grid power level to trace the rogue diver's path.

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



13^2 = ☐ → T

5^3 = ☐ → N

2^7 = ☐ → I

12^2 = ☐ → R

2^5 = ☐ → L

2^2 = ☐ → K

7^2 = ☐ → G

5^2 = ☐ → O

3^5 = ☐ → V

11^2 = ☐ → A

15^2 = ☐ → H

19^2 = ☐ → C

2^8 = ☐ → D

6^2 = ☐ → S

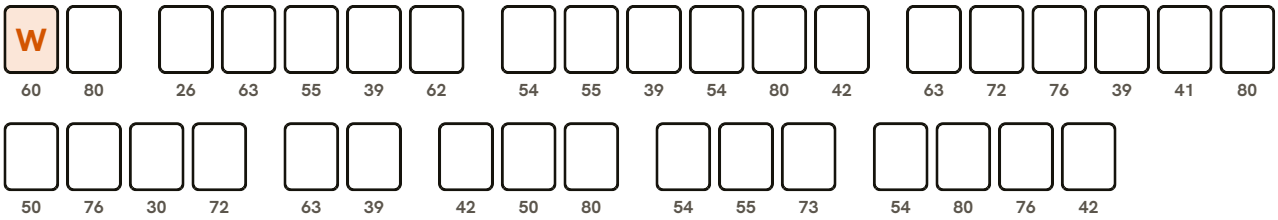
2^3 = ☐ → E

Scratch space:

CLUE 4 Order of operations

> To unlock the encrypted security footage, you must solve this multi-step operational sequence in the correct order.

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



32 + 4 × 7 = ☐ → **W**

4 × 7 - 2 = ☐ → **F**

33 + 5 × 8 = ☐ → **B**

7 × 7 - 19 = ☐ → **I**

12 × 8 - 20 = ☐ → **A**

4 + 5 × 7 = ☐ → **N**

5 × 9 - 3 = ☐ → **T**

42 + 5 × 4 = ☐ → **D**

6 × 9 - 4 = ☐ → **H**

8 × 11 - 8 = ☐ → **E**

9 × 9 - 26 = ☐ → **U**

42 + 6 × 5 = ☐ → **R**

42 + 6 × 2 = ☐ → **S**

51 + 3 × 4 = ☐ → **O**

12 × 5 - 19 = ☐ → **G**

Scratch space:

CLUE 5 Division facts (1-12) - the last clue

> We need to distribute the emergency oxygen tanks equally among the scout subs. Divide the total supply to see how many subs can launch.

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:

6 ÷ 6 = ☐	90 ÷ 10 = ☐	22 ÷ 11 = ☐	24 ÷ 2 = ☐	63 ÷ 9 = ☐
55 ÷ 11 = ☐	36 ÷ 12 = ☐	48 ÷ 8 = ☐	10 ÷ 1 = ☐	40 ÷ 10 = ☐
32 ÷ 4 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain bored a hole using the heavy drill arm, then shocked the pursuing droids with an electric hull shield.
2. The villain fired the harpoon launcher at the vault door, then zipped through the reef with a super speed propeller.
3. The villain fired the harpoon launcher at the vault door, then shocked the pursuing droids with an electric hull shield.
4. The villain fired the harpoon launcher at the vault door, then faded away using stealth camouflage.
5. The villain clamped the mechanical claw onto the safe, then blinded the tracking radar with a sonar jammer.
6. The villain activated the turbo thrusters to flee, then faded away using stealth camouflage.
7. The villain clamped the mechanical claw onto the safe, then zipped through the reef with a super speed propeller.
8. The villain sliced open the steel safe with a plasma cutting torch, then lit up the dark abyss with a laser spotlight.
9. The villain activated the turbo thrusters to flee, then lit up the dark abyss with a laser spotlight.
10. The villain bored a hole using the heavy drill arm, then zipped through the reef with a super speed propeller.
11. The villain activated the turbo thrusters to flee, then shocked the pursuing droids with an electric hull shield.
12. The villain sliced open the steel safe with a plasma cutting torch, then blinded the tracking radar with a sonar jammer.

TEACHER / PARENT

Answer Key

The Midnight Zone Mystery

Culprit: Jeanne Baret

turbo thrusters · electric hull shield · right handed swimmer · sunset orange hair · cluttered air lines

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT HAVE A SONAR JAMMER"

2 × 4 = 8 (T) · 6 × 4 = 24 (N) · 6 × 9 = 54 (S) · 6 × 7 = 42 (M) · 2 × 1 = 2 (L) · 7 × 10 = 70 (E) · 4 × 7 = 28 (J) · 9 × 2 = 18 (V) · 10 × 9 = 90 (O) · 2 × 8 = 16 (R) · 7 × 2 = 14 (I) · 12 × 6 = 72 (H) · 8 × 8 = 64 (A) · 11 × 5 = 55 (D)

Clue 2 (Percentages): "THE SUSPECT SWIMS MAINLY WITH THE RIGHT HAND"

50% of 24 = 12 (T) · 25% of 44 = 11 (P) · 10% of 10 = 1 (A) · 25% of 84 = 21 (I) · 50% of 48 = 24 (D) · 10% of 400 = 40 (H) · 10% of 160 = 16 (U) · 25% of 28 = 7 (W) · 60% of 60 = 36 (L) · 25% of 36 = 9 (R) · 5% of 40 = 2 (Y) · 5% of 200 = 10 (S) · 20% of 115 = 23 (M) · 25% of 56 = 14 (C) · 25% of 112 = 28 (E) · 75% of 56 = 42 (G) · 50% of 12 = 6 (N)

Clue 3 (Exponents): "THE VILLAIN HAS TANGLED AIR LINES ON DECK"

13^2 = 169 (T) · 5^3 = 125 (N) · 2^7 = 128 (I) · 12^2 = 144 (R) · 2^5 = 32 (L) · 2^2 = 4 (K) · 7^2 = 49 (G) · 5^2 = 25 (O) · 3^5 = 243 (V) · 11^2 = 121 (A) · 15^2 = 225 (H) · 19^2 = 361 (C) · 2^8 = 256 (D) · 6^2 = 36 (S) · 2^3 = 8 (E)

Clue 4 (Order of operations): "WE FOUND SUNSET ORANGE HAIR ON THE SUB SEAT"

32 + 4 × 7 = 60 (W) · 4 × 7 - 2 = 26 (F) · 33 + 5 × 8 = 73 (B) · 7 × 7 - 19 = 30 (I) · 12 × 8 - 20 = 76 (A) · 4 + 5 × 7 = 39 (N) · 5 × 9 - 3 = 42 (T) · 42 + 5 × 4 = 62 (D) · 6 × 9 - 4 = 50 (H) · 8 × 11 - 8 = 80 (E) · 9 × 9 - 26 = 55 (U) · 42 + 6 × 5 = 72 (R) · 42 + 6 × 2 = 54 (S) · 51 + 3 × 4 = 63 (O) · 12 × 5 - 19 = 41 (G)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Jeanne Baret

6 ÷ 6 = 1 · 90 ÷ 10 = 9 · 22 ÷ 11 = 2 · 24 ÷ 2 = 12 · 63 ÷ 9 = 7 · 55 ÷ 11 = 5 · 36 ÷ 12 = 3 · 48 ÷ 8 = 6 · 10 ÷ 1 = 10 · 40 ÷ 10 = 4 · 32 ÷ 4 = 8