The Mystery of the Sunken Sun Stone

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

Detective: _____ **Date:** _____

During a midnight expedition into the Coban ruins, someone breached the vault and snatched the ancient Sun Stone. Five rival explorers were spotted near the inner chamber. Solve the clues to unmask the culprit!

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 Rival Explorer is _____

Possible suspects

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

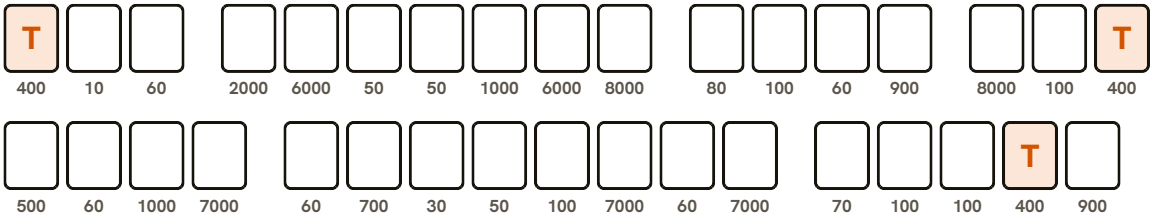
NAME	TOOL	GEAR	GRIP	HAT COLOR	FEAR
Chloe Finch	Grappling Hook	Brass Goggles	Left Handed	Green Beret	Fear Of Bats
Nora Drake	Smoke Bomb	Brass Goggles	Left Handed	Tan Fedora	Fear Of Bats
Ethan Huntley	Grappling Hook	Explorer Boots	Right Handed	Brown Cap	Fear Of Bats
Leo Vance	Smoke Bomb	Explorer Boots	Right Handed	Green Beret	Fear Of Spiders
Iris Vance	Smoke Bomb	Compass Badge	Left Handed	Green Beret	Fear Of Bats
Lily Chen	Decoder Ring	Map Case	Right Handed	Green Beret	Fear Of Snakes
Henry Cross	Torch Lantern	Signal Whistle	Right Handed	Tan Fedora	Fear Of Snakes
Caleb Frost	Torch Lantern	Explorer Boots	Right Handed	Green Beret	Fear Of Spiders
Hannah Abbott	Decoder Ring	Brass Goggles	Right Handed	Brown Cap	Fear Of Bats
Ruby Paxton	Machete	Signal Whistle	Left Handed	Brown Cap	Fear Of Bats
Diego Reyes	Grappling Hook	Map Case	Left Handed	Green Beret	Fear Of Snakes
Oscar Wilde	Grappling Hook	Compass Badge	Right Handed	Tan Fedora	Fear Of Snakes
Ivy Rhodes	Smoke Bomb	Map Case	Right Handed	Tan Fedora	Fear Of Spiders
Maya Cruz	Smoke Bomb	Brass Goggles	Right Handed	Green Beret	Fear Of Bats
Victor Stone	Machete	Map Case	Left Handed	Green Beret	Fear Of Bats
Elena Santos	Smoke Bomb	Map Case	Right Handed	Green Beret	Fear Of Snakes
Sam Sterling	Decoder Ring	Brass Goggles	Left Handed	Green Beret	Fear Of Bats
Jasper Cole	Torch Lantern	Signal Whistle	Right Handed	Brown Cap	Fear Of Spiders
Felix Rivera	Decoder Ring	Brass Goggles	Right Handed	Green Beret	Fear Of Spiders
Marcus Brody	Decoder Ring	Explorer Boots	Left Handed	Green Beret	Fear Of Bats
Owen Mercer	Torch Lantern	Explorer Boots	Left Handed	Tan Fedora	Fear Of Spiders

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CLUE 1 Place value

Analyzing the digital vault readout reveals place values that point to our first clue.

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



What is the value of the 4 in 79,429? ☐ → T

What is the value of the 1 in 466,610? ☐ → H

What is the value of the 7 in 147,104? ☐ → R

What is the value of the 5 in 796,252? ☐ → L

What is the value of the 1 in 451,070? ☐ → A

What is the value of the 5 in 240,506? ☐ → W

What is the value of the 8 in 38,555? ☐ → N

What is the value of the 1 in 968,173? ☐ → O

What is the value of the 7 in 334,876? ☐ → B

What is the value of the 3 in 87,830? ☐ → P

What is the value of the 7 in 63,709? ☐ → X

What is the value of the 9 in 557,920? ☐ → S

What is the value of the 6 in 95,160? ☐ → E

What is the value of the 8 in 10,081? ☐ → D

What is the value of the 2 in 542,807? ☐ → V

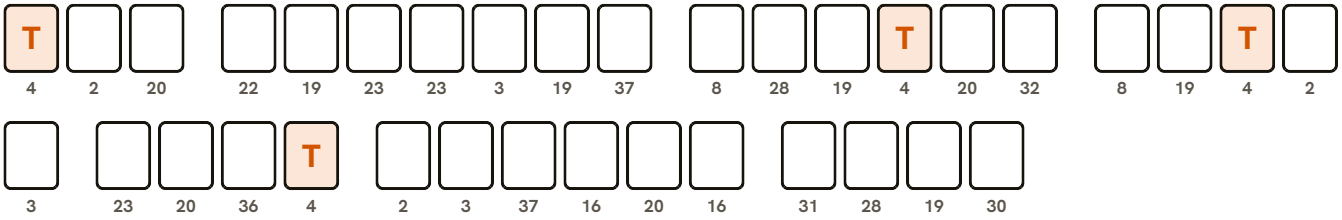
What is the value of the 6 in 76,299? ☐ → I

Scratch space:

CLUE 2 Fractions of a number

> Checking the fraction of ancient coins left in the supply chest uncovers another lead.

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



2/6 of 12 = ☐ → T

1/6 of 186 = ☐ → G

5/8 of 32 = ☐ → E

2/6 of 84 = ☐ → R

1/6 of 18 = ☐ → A

2/3 of 48 = ☐ → S

4/8 of 32 = ☐ → D

1/3 of 57 = ☐ → I

1/4 of 120 = ☐ → P

4/6 of 3 = ☐ → H

1/8 of 64 = ☐ → W

2/6 of 111 = ☐ → N

1/4 of 144 = ☐ → F

1/3 of 69 = ☐ → L

2/6 of 66 = ☐ → V

Scratch space:

CLUE 3 Word problems

Solving the puzzle journal entries from the temple guard provides important evidence.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

F					F				S
23	42	33	13	72	23	96	33	61	

.

Trail guide found 2 flint tools yesterday and 21 more today. How many flint tools in all?

Answer: ☐ → **F**

Trail guide found 22 bronze idols yesterday and 20 more today. How many bronze idols in all?

Answer: ☐ → **E**

Trail guide found 10 ancient maps yesterday and 51 more today. How many ancient maps in all?

Answer: ☐ → **T**

Trail guide lined up 12 rows of 6 bronze idols. How many bronze idols in all?

Answer: ☐ → **O**

There were 106 bronze idols. 10 were used up. How many bronze idols are left?

Answer: ☐ → **B**

Trail guide found 11 flint tools yesterday and 2 more today. How many flint tools in all?

Answer: ☐ → **R**

Trail guide lined up 11 rows of 3 flint tools. How many flint tools in all?

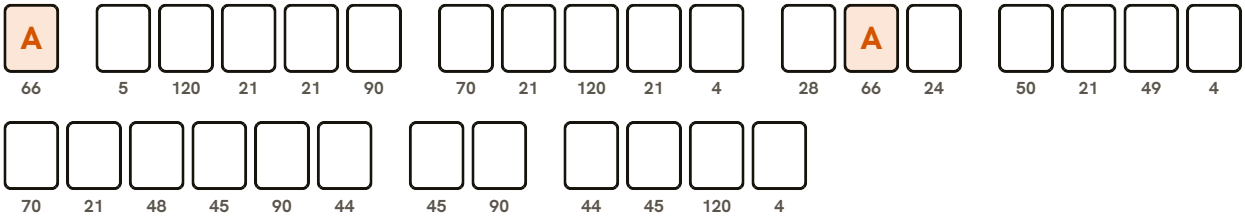
Answer: ☐ → **A**

Scratch space:

CLUE 4 Multiplication facts (1-12)

> Counting the total tiles across the temple grid room narrows down the suspect list.

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



11 × 6 = ☐ → A	7 × 10 = ☐ → B	5 × 1 = ☐ → G		
1 × 4 = ☐ → T	4 × 11 = ☐ → D	12 × 10 = ☐ → R		
3 × 7 = ☐ → E	5 × 10 = ☐ → L	5 × 9 = ☐ → I	7 × 4 = ☐ → W	
7 × 7 = ☐ → F	6 × 8 = ☐ → H	2 × 12 = ☐ → S		
9 × 10 = ☐ → N				

Scratch space:

CLUE 5 Fractions of a number - the last clue

Calculating the fraction of camp rations consumed reveals the final key details.

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:

1/4 of 4 = ☐ | 1/8 of 32 = ☐ | 2/6 of 6 = ☐ | 1/5 of 50 = ☐ | 4/8 of 10 = ☐

3/10 of 20 = ☐ | 2/6 of 33 = ☐ | 1/3 of 21 = ☐ | 2/5 of 20 = ☐

5/10 of 24 = ☐ | 2/6 of 27 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain cleared the heavy vines with a sharp machete, then safeguarded the old parchment in a map case.
2. The villain swung across the chasm with a grappling hook, then scouted the dark ruin with brass goggles.
3. The villain escaped through the corridor with a smoke bomb, then checked direction with a compass badge.
4. The villain unlocked the stone door with a decoder ring, then scouted the dark ruin with brass goggles.
5. The villain escaped through the corridor with a smoke bomb, then signaled their partner with a signal whistle.
6. The villain swung across the chasm with a grappling hook, then marched through the mud in explorer boots.
7. The villain cleared the heavy vines with a sharp machete, then checked direction with a compass badge.
8. The villain lit the dark passageway with a torch lantern, then checked direction with a compass badge.
9. The villain lit the dark passageway with a torch lantern, then signaled their partner with a signal whistle.
10. The villain lit the dark passageway with a torch lantern, then marched through the mud in explorer boots.
11. The villain cleared the heavy vines with a sharp machete, then scouted the dark ruin with brass goggles.
12. The villain cleared the heavy vines with a sharp machete, then marched through the mud in explorer boots.

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TEACHER / PARENT

Answer Key

The Mystery of the Sunken Sun Stone

Culprit: Iris Vance

Smoke Bomb · Compass Badge · Left Handed · Green Beret · Fear Of Bats

Trail: Start 21 → Clue 1 16 → Clue 2 7 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT WEAR EXPLORER BOOTS"

What is the value of the 4 in 79,429? = 400 (T) · What is the value of the 1 in 466,610? = 10 (H) · What is the value of the 7 in 147,104? = 7000 (R) · What is the value of the 5 in 796,252? = 50 (L) · What is the value of the 1 in 451,070? = 1000 (A) · What is the value of the 5 in 240,506? = 500 (W) · What is the value of the 8 in 38,555? = 8000 (N) · What is the value of the 1 in 968,173? = 100 (O) · What is the value of the 7 in 334,876? = 70 (B) · What is the value of the 3 in 87,830? = 30 (P) · What is the value of the 7 in 63,709? = 700 (X) · What is the value of the 9 in 557,920? = 900 (S) · What is the value of the 6 in 95,160? = 60 (E) · What is the value of the 8 in 10,081? = 80 (D) · What is the value of the 2 in 542,807? = 2000 (V) · What is the value of the 6 in 76,299? = 6000 (I)

Clue 2 (Fractions of a number): "THE VILLAIN WRITES WITH A LEFT HANDED GRIP"

2/6 of 12 = 4 (T) · 1/6 of 186 = 31 (G) · 5/8 of 32 = 20 (E) · 2/6 of 84 = 28 (R) · 1/6 of 18 = 3 (A) · 2/3 of 48 = 32 (S) · 4/8 of 32 = 16 (D) · 1/3 of 57 = 19 (I) · 1/4 of 120 = 30 (P) · 4/6 of 3 = 2 (H) · 1/8 of 64 = 8 (W) · 2/6 of 111 = 37 (N) · 1/4 of 144 = 36 (F) · 1/3 of 69 = 23 (L) · 2/6 of 66 = 22 (V)

Clue 3 (Word problems): "FEAR OF BATS"

Trail guide found 2 flint tools yesterday and 21 more today. How many flint tools in all? = 23 (F) · Trail guide found 22 bronze idols yesterday and 20 more today. How many bronze idols in all? = 42 (E) · Trail guide found 10 ancient maps yesterday and 51 more today. How many ancient maps in all? = 61 (T) · Trail guide lined up 12 rows of 6 bronze idols. How many bronze idols in all? = 72 (O) · There were 106 bronze idols. 10 were used up. How many bronze idols are left? = 96 (B) · Trail guide found 11 flint tools yesterday and 2 more today. How many flint tools in all? = 13 (R) · Trail guide lined up 11 rows of 3 flint tools. How many flint tools in all? = 33 (A)

Clue 4 (Multiplication facts (1-12)): "A GREEN BERET WAS LEFT BEHIND IN DIRT"

11 × 6 = 66 (A) · 7 × 10 = 70 (B) · 5 × 1 = 5 (G) · 1 × 4 = 4 (T) · 4 × 11 = 44 (D) · 12 × 10 = 120 (R) · 3 × 7 = 21 (E) · 5 × 10 = 50 (L) · 5 × 9 = 45 (I) · 7 × 4 = 28 (W) · 7 × 7 = 49 (F) · 6 × 8 = 48 (H) · 2 × 12 = 24 (S) · 9 × 10 = 90 (N)

Clue 5 (Fractions of a number): surviving statement is box 3 → Iris Vance

1/4 of 4 = 1 · 1/8 of 32 = 4 · 2/6 of 6 = 2 · 1/5 of 50 = 10 · 4/8 of 10 = 5 · 3/10 of 20 = 6 · 2/6 of 33 = 11 · 1/3 of 21 = 7 · 2/5 of 20 = 8 · 5/10 of 24 = 12 · 2/6 of 27 = 9