



The Mystery of the Sunken Sun Idol

Grade 7 math · Fractions of a number, Word problems, Integers, Percentages · Reading level grades 7-9

Detective: _____ **Date:** _____

During a midnight raid on the Sunken Ruins of Xibalba, a rogue explorer bypassed the security seals and snatched the Golden Sun Idol from the Head Curator's vault. By analyzing field logs, elevation charts, and trace evidence left along the escape path, you must deduce the villain's identity before they vanish into the dense jungle forever.

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 Explorer is _____

Possible suspects

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

NAME	PRIMARY TOOL	SECONDARY GEAR	STANCE	BANDANA COLOR	VULNERABILITY
Ranulph Fiennes	Machete	Signal Flare	Left Handed	Cobalt Bandana	Sudden Draft
Nellie Bly	Golden Compass	Rope Ladder	Right Handed	Crimson Bandana	Bright Flash
Bear Grylls	Golden Compass	Rope Ladder	Left Handed	Emerald Bandana	Bright Flash
Thor Heyerdahl	Machete	Rope Ladder	Right Handed	Emerald Bandana	Bright Flash
Lara Croft	Golden Compass	Rope Ladder	Left Handed	Emerald Bandana	Loud Sounds
Indiana Jones	Smoke Bomb	Water Canteen	Right Handed	Emerald Bandana	Bright Flash
Matthew Henson	Golden Compass	Rope Ladder	Right Handed	Emerald Bandana	Loud Sounds
Roald Amundsen	Machete	Signal Flare	Right Handed	Crimson Bandana	Sudden Draft
Rick OConnell	Smoke Bomb	Rope Ladder	Right Handed	Emerald Bandana	Loud Sounds
James Cook	Machete	Glider Pack	Right Handed	Emerald Bandana	Bright Flash
Amelia Earhart	Machete	Glider Pack	Left Handed	Emerald Bandana	Sudden Draft
Mary Kingsley	Smoke Bomb	Rope Ladder	Right Handed	Cobalt Bandana	Bright Flash
Evelyn Carnahan	Golden Compass	Rope Ladder	Right Handed	Cobalt Bandana	Loud Sounds
Percy Fawcett	Grappling Hook	Glider Pack	Right Handed	Cobalt Bandana	Loud Sounds
Sacagawea	Machete	Signal Flare	Left Handed	Cobalt Bandana	Loud Sounds
Steve Irwin	Smoke Bomb	Rope Ladder	Left Handed	Cobalt Bandana	Sudden Draft
Harriet Chalmers Adams	Smoke Bomb	Glider Pack	Right Handed	Crimson Bandana	Sudden Draft
Alan Quartermain	Smoke Bomb	Glider Pack	Left Handed	Cobalt Bandana	Loud Sounds
Nathan Drake	Grappling Hook	Rope Ladder	Left Handed	Emerald Bandana	Loud Sounds
Roy Chapman Andrews	Golden Compass	Torch Light	Right Handed	Emerald Bandana	Bright Flash
Gertrude Bell	Decoder Ring	Signal Flare	Right Handed	Emerald Bandana	Bright Flash

CLUE 1

We recovered a damaged expedition manifest showing total gear crates shipped to the ruins. Calculating the exact fractional portion remaining gives us our first clue.

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

Two rows of 15 empty boxes each. In the first row, the 1st, 10th, and 15th boxes contain the letter 'T'. Below the first row, the numbers 56, 7, 25, 29, 36, 29, 27, 25, 14, 56, 23, 11, 25, 29, 42, 11, and 56 are written. In the second row, the 8th and 15th boxes contain the letter 'T'. Below the second row, the numbers 14, 44, 26, 26, 49, 44, 56, 11, 26, 14, 7, 3, 22, 52, 7, and 56 are written.

4/8 of 112 = → **T**

5/10 of 58 = → **S**

$$2/10 \text{ of } 180 = \boxed{} \rightarrow \boxed{\text{U}}$$

2/10 of 55 = →

2/8 of 196 = → **Y**

$\frac{1}{6}$ of 150 = $\rightarrow$ **E**

8/10 of 65 = → **G**

$$3/6 \text{ of } 14 = \boxed{} \rightarrow \boxed{\text{H}}$$

$2/8$ of $92 = \boxed{} \rightarrow \boxed{\text{D}}$

$2/3$ of 66 = $\rightarrow$ **A**

$3/6$ of 28 = $\rightarrow$ **C**

$$\frac{1}{2} \text{ of } 54 = \boxed{} \rightarrow \boxed{\text{P}}$$

$\frac{1}{4}$ of 88 = $\rightarrow$

$$3/6 \text{ of } 52 = \boxed{} \rightarrow \boxed{\text{R}}$$

5/10 of 6 = → **L**

$2/3$ of 63 = $\rightarrow$ **N**

Scratch space:

CLUE 2

Word problems

The Head Curator logged details about the break-in across several field notes. Solving these scenario problems reveals another piece of evidence.

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

A witness saw the villain was R D E D .

70 13 26 82 34 82 29 20

There were 103 stone artifacts. 33 were used up. How many stone artifacts are left?

Answer: → R

There were 21 map fragments. 8 were used up. How many map fragments are left?

Answer: → I

There were 48 ruby gems. 22 were used up. How many ruby gems are left?

Answer: → G

Chief Archaeologist lined up 10 rows of 2 ruby gems. How many ruby gems in all?

Answer: → N

There were 61 ancient coins. 27 were used up. How many ancient coins are left?

Answer: → T

Chief Archaeologist found 43 stone artifacts yesterday and 39 more today. How many stone artifacts in all?

Answer: → H

Chief Archaeologist found 3 ancient coins yesterday and 26 more today. How many ancient coins in all?

Answer: → A

Scratch space:

CLUE 3 Integers

An elevation ledger tracks how many meters above or below sea level the suspect moved through the subterranean caverns. Combining these positive and negative values unlocks the next lead.

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

A									A							
15	4	18	8	11	17	26	3	25	15	13	17	1	8	25	25	
												A				
9	8	13	30	18	8	20	16	26	26	17	20	26	15	18	11	20

$(-7) + 22 = \square \rightarrow$ A	$8 - (-10) = \square \rightarrow$ R	$19 - (-11) = \square \rightarrow$ O
$14 - (-6) = \square \rightarrow$ E	$(-2) + 6 = \square \rightarrow$ B	$15 - (-11) = \square \rightarrow$ T
$12 - (-1) = \square \rightarrow$ S	$(-3) + 6 = \square \rightarrow$ F	$(-5) + 30 = \square \rightarrow$ L
$(-11) + 20 = \square \rightarrow$ D	$(-9) + 10 = \square \rightarrow$ W	$14 - (-3) = \square \rightarrow$ H
$12 - (-4) = \square \rightarrow$ N	$(-11) + 22 = \square \rightarrow$ G	$1 - (-7) = \square \rightarrow$ I

Scratch space:

CLUE 4 Percentages

Sensors along the ancient temple threshold recorded the percentage of ambient light and pressure changes during the intruder's passage. Converting these rates pinpoints critical details.

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

L																	
47	29	33	7	52	7	4	34	35	12	52	33	4	41	42	34	35	

					L									
29	42	29	4	34	47	12	22	34	35	12	34	35	34	

25% of 188 = → L	25% of 136 = → A	20% of 145 = → E
20% of 20 = → R	50% of 104 = → S	10% of 410 = → O
50% of 44 = → B	25% of 28 = → T	25% of 168 = → M
20% of 165 = → F	25% of 48 = → D	25% of 140 = → N

Scratch space:

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

A final ledger lists the ratio of vault tiles triggered during the escape. Finding the precise fraction narrows down the last suspect trait.

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:

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

$1/8 \text{ of } 32 = \boxed{}$

$4/5 \text{ of } 15 = \boxed{}$

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

$1/5 \text{ of } 25 = \boxed{}$

$3/5 \text{ of } 15 = \boxed{}$

$1/10 \text{ of } 20 = \boxed{}$

$3/4 \text{ of } 8 = \boxed{}$

$1/4 \text{ of } 28 = \boxed{}$

$2/3 \text{ of } 12 = \boxed{}$

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

Step 2 - cross out the sentence with each answer:

1. The villain vanishes with a smoke bomb, then descends with a rope ladder.
2. The villain vanishes with a smoke bomb, then illuminates with a torch light.
3. The villain clears brush with the machete, then descends with a rope ladder.
4. The villain aligns the decoder ring, then signals with a signal flare.
5. The villain orients with the golden compass, then refreshes with a water canteen.
6. The villain swings with the grappling hook, then glides off with the glider pack.
7. The villain orients with the golden compass, then glides off with the glider pack.
8. The villain swings with the grappling hook, then refreshes with a water canteen.
9. The villain swings with the grappling hook, then descends with a rope ladder.
10. The villain clears brush with the machete, then refreshes with a water canteen.
11. The villain vanishes with a smoke bomb, then refreshes with a water canteen.
12. The villain clears brush with the machete, then glides off with the glider pack.

Answer Key

The Mystery of the Sunken Sun Idol

Culprit: Indiana Jones

Smoke Bomb · Water Canteen · Right Handed · Emerald Bandana · Bright Flash

Trail: Start 21 → Clue 1 20 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE SUSPECT DOES NOT CARRY A TORCH LIGHT"

$4/8$ of 112 = 56 (T) · $5/10$ of 58 = 29 (S) · $2/10$ of 180 = 36 (U) · $2/10$ of 55 = 11 (O) · $2/8$ of 196 = 49 (Y) · $1/6$ of 150 = 25 (E) · $8/10$ of 65 = 52 (G) · $3/6$ of 14 = 7 (H) · $2/8$ of 92 = 23 (D) · $2/3$ of 66 = 44 (A) · $3/6$ of 28 = 14 (C) · $1/2$ of 54 = 27 (P) · $1/4$ of 88 = 22 (I) · $3/6$ of 52 = 26 (R) · $5/10$ of 6 = 3 (L) · $2/3$ of 63 = 42 (N)

Clue 2 (Word problems): "RIGHT HANDED"

There were 103 stone artifacts. 33 were used up. How many stone artifacts are left? = 70 (R) · There were 21 map fragments. 8 were used up. How many map fragments are left? = 13 (I) · There were 48 ruby gems. 22 were used up. How many ruby gems are left? = 26 (G) · Chief Archaeologist lined up 10 rows of 2 ruby gems. How many ruby gems in all? = 20 (N) · There were 61 ancient coins. 27 were used up. How many ancient coins are left? = 34 (T) · Chief Archaeologist found 43 stone artifacts yesterday and 39 more today. How many stone artifacts in all? = 82 (H) · Chief Archaeologist found 3 ancient coins yesterday and 26 more today. How many ancient coins in all? = 29 (A)

Clue 3 (Integers): "A BRIGHT FLASH WILL DISORIENT THE TARGET"

$(-7) + 22 = 15$ (A) · $8 - (-10) = 18$ (R) · $19 - (-11) = 30$ (O) · $14 - (-6) = 20$ (E) · $(-2) + 6 = 4$ (B) · $15 - (-11) = 26$ (T) · $12 - (-1) = 13$ (S) · $(-3) + 6 = 3$ (F) · $(-5) + 30 = 25$ (L) · $(-11) + 20 = 9$ (D) · $(-9) + 10 = 1$ (W) · $14 - (-3) = 17$ (H) · $12 - (-4) = 16$ (N) · $(-11) + 22 = 11$ (G) · $1 - (-7) = 8$ (I)

Clue 4 (Percentages): "LEFT STRANDS FROM AN EMERALD BANDANA"

25% of 188 = 47 (L) · 25% of 136 = 34 (A) · 20% of 145 = 29 (E) · 20% of 20 = 4 (R) · 50% of 104 = 52 (S) · 10% of 410 = 41 (O) · 50% of 44 = 22 (B) · 25% of 28 = 7 (T) · 25% of 168 = 42 (M) · 20% of 165 = 33 (F) · 25% of 48 = 12 (D) · 25% of 140 = 35 (N)

Clue 5 (Fractions of a number): surviving statement is box 11 → Indiana Jones

$1/8$ of 24 = 3 · $1/8$ of 32 = 4 · $4/5$ of 15 = 12 · $1/4$ of 40 = 10 · $1/5$ of 25 = 5 · $3/5$ of 15 = 9 · $1/10$ of 20 = 2 · $3/4$ of 8 = 6 · $1/4$ of 28 = 7 · $2/3$ of 12 = 8 · $2/4$ of 2 = 1