



The Temple Map Mystery

Grade 8 math · Fractions of a number, Exponents, Square roots, Pythagorean theorem · Reading level grades 7-9

Detective: _____ Date: _____

An ancient map leading to the lost city of gold has been stolen from the Grand Temple of Adventure! The security cameras caught a fast-moving blur escaping into the jungle. As the lead detective of the Explorer League, you must analyze the clues left behind and find the culprit before the treasure is lost 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 Agent is _____

Possible suspects

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

NAME	PRIMARY GADGET	BACKUP GEAR	DOMINANT HAND	HAIR EVIDENCE	DEFENSIVE COUNTER
Sly Cooper	Grappling Hook	Scuba Gear	Left-Handed	Brown Hair	Squeaky Toy
Dirk Pitt	Glider Pack	Night Vision Goggles	Left-Handed	Red Hair	Squeaky Toy
Alan Grant	Glider Pack	Scuba Gear	Left-Handed	Red Hair	Heavy Magnet
Nathan Drake	Smoke Bombs	Mini Drone	Left-Handed	Brown Hair	Flashlight Beam
Phileas Fogg	Smoke Bombs	Scuba Gear	Right-Handed	Blonde Hair	Heavy Magnet
Sherlock Holmes	Grappling Hook	Night Vision Goggles	Left-Handed	Brown Hair	Heavy Magnet
Benjamin Gates	Laser Watch	Mini Drone	Left-Handed	Red Hair	Flashlight Beam
Katniss Everdeen	Smoke Bombs	Night Vision Goggles	Left-Handed	Brown Hair	Heavy Magnet
Elizabeth Swann	Laser Watch	Scuba Gear	Left-Handed	Brown Hair	Heavy Magnet
Evelyn Carnahan	Smoke Bombs	Force Field	Left-Handed	Brown Hair	Heavy Magnet
John Watson	Decoder Ring	Mini Drone	Left-Handed	Brown Hair	Squeaky Toy
Jack Sparrow	Decoder Ring	Mini Drone	Left-Handed	Red Hair	Heavy Magnet
Hardy Boy	Laser Watch	Night Vision Goggles	Left-Handed	Blonde Hair	Squeaky Toy
Lara Croft	Smoke Bombs	Scuba Gear	Right-Handed	Blonde Hair	Squeaky Toy
Annabeth Chase	Decoder Ring	Force Field	Left-Handed	Brown Hair	Heavy Magnet
Ellie Sattler	Glider Pack	Rocket Boots	Right-Handed	Brown Hair	Heavy Magnet
James Bond	Glider Pack	Scuba Gear	Left-Handed	Brown Hair	Flashlight Beam
Rick OConnell	Decoder Ring	Night Vision Goggles	Right-Handed	Blonde Hair	Squeaky Toy
Nancy Drew	Grappling Hook	Night Vision Goggles	Left-Handed	Red Hair	Flashlight Beam
Amelia Earhart	Grappling Hook	Mini Drone	Left-Handed	Brown Hair	Heavy Magnet
Indiana Jones	Smoke Bombs	Force Field	Right-Handed	Red Hair	Squeaky Toy

CLUE 1 Fractions of a number

The Temple Guild needs us to calculate what fraction of the ancient map pieces are still intact before we can unlock the first clue vault.

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

T			T					T							T			
57	32	56	57	37	59	12	56	57	15	40	56	54	11	40	57	45	54	56
37	5	40	59	16	56	5	41	56	51	15								

$3/8 \text{ of } 152 = \square \rightarrow \boxed{\text{T}}$

$2/5 \text{ of } 100 = \square \rightarrow \boxed{\text{O}}$

$5/10 \text{ of } 112 = \square \rightarrow \boxed{\text{E}}$

$1/4 \text{ of } 48 = \square \rightarrow \boxed{\text{G}}$

$1/2 \text{ of } 82 = \square \rightarrow \boxed{\text{I}}$

$1/8 \text{ of } 128 = \square \rightarrow \boxed{\text{C}}$

$3/10 \text{ of } 170 = \square \rightarrow \boxed{\text{L}}$

$6/10 \text{ of } 25 = \square \rightarrow \boxed{\text{D}}$

$3/6 \text{ of } 90 = \square \rightarrow \boxed{\text{U}}$

$2/8 \text{ of } 148 = \square \rightarrow \boxed{\text{A}}$

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

$1/2 \text{ of } 108 = \square \rightarrow \boxed{\text{S}}$

$4/8 \text{ of } 64 = \square \rightarrow \boxed{\text{H}}$

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

$1/2 \text{ of } 118 = \square \rightarrow \boxed{\text{R}}$

Scratch space:

CLUE 2 Exponents

We find a strange crystal computer near the ruins. To power it up, we must figure out how fast the energy cells multiply when raised to the power of three.

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

T			T																T
169	49	196	169	49	484	196	343	729	196	125	289	196	8	729	196	343	169		
49	125	100	16	196	16	8	128	144	16	32	196	8							

$13^2 = \square \rightarrow$ T	$2^3 = \square \rightarrow$ S	$3^6 = \square \rightarrow$ L	$12^2 = \square \rightarrow$ U
$22^2 = \square \rightarrow$ I	$7^2 = \square \rightarrow$ H	$2^5 = \square \rightarrow$ G	$14^2 = \square \rightarrow$ E
$4^2 = \square \rightarrow$ D	$7^3 = \square \rightarrow$ F	$10^2 = \square \rightarrow$ N	$2^7 = \square \rightarrow$ M
$17^2 = \square \rightarrow$ V	$5^3 = \square \rightarrow$ A		

Scratch space:

CLUE 3

A massive stone door blocks our path. We must calculate the square root of the grid of floor tiles to safely step across without falling into a trap.

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

Diagram illustrating the sequence of numbers and 'T' markers across two rows:

- Row 1: [T|13|25|8] [T|13|17|4|21|8|13] [14|17|11] [25|17|22|T|13|8|18]
- Row 2: [12|20|17] [25|8|17|7|20] [16|17|21|15|8|T|13]

sqrt(169) = → ☐ T

sqrt(16) = → **R**

sqrt(225) = → **N**

sqrt(400) = →

sqrt(441) = → **G**

sqrt(144) = → **B**

sqrt(64) = → **E**

sqrt(324) = → **D**

sqrt(49) = → **V**

sqrt(196) = → **W**

sqrt(256) = → **M**

sqrt(484) = → **L**

$\text{sqrt}(289) =$ $\rightarrow$ **A**

sqrt(625) = → **H**

sqrt(121) = → **S**

Scratch space:

CLUE 4

Pythagorean theorem

To reach the high ledge where the thief fled, we need to calculate the hypotenuse length for our climbing ladder using the wall heights.

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

W											W					
29	41	20	17	5	34	58	40	13	82	17	29	34	65	40	52	82
37	30	82	40	34	58											

legs 20 and 21, hypotenuse = → **W**

legs 40 and 42, hypotenuse = → **D**

legs 8 and 15, hypotenuse = → **O**

legs 16 and 30, hypotenuse = → **N**

legs 20 and 48, hypotenuse = → **I**

legs 5 and 12, hypotenuse = → **B**

legs 12 and 16, hypotenuse = → **F**

legs 12 and 35, hypotenuse = → **S**

legs 18 and 24, hypotenuse = → **T**

legs 9 and 40, hypotenuse = → **E**

legs 18 and 80, hypotenuse = → **R**

legs 25 and 60, hypotenuse = → **H**

legs 24 and 32, hypotenuse = → **A**

legs 3 and 4, hypotenuse = → **U**

Scratch space:

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

We finally reach the temple exit. We have to count our remaining fuel canisters and calculate the exact fraction needed to power the helicopter.

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:

$5/8 \text{ of } 8 = \boxed{}$

$3/6 \text{ of } 16 = \boxed{}$

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

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

$2/4 \text{ of } 18 = \boxed{}$

$4/10 \text{ of } 15 = \boxed{}$

$6/10 \text{ of } 20 = \boxed{}$

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

$1/8 \text{ of } 80 = \boxed{}$

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

$6/8 \text{ of } 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain escapes in a cloud of smoke, then deploys a scout mini drone.
2. The villain zaps the security lock, then deploys a scout mini drone.
3. The villain escapes in a cloud of smoke, then blocks the darts with a force field.
4. The villain decodes the secret map, then deploys a scout mini drone.
5. The villain zaps the security lock, then swims through the flooded passage.
6. The villain swings with a grappling hook, then blasts away using rocket boots.
7. The villain escapes in a cloud of smoke, then activates night vision goggles.
8. The villain swings with a grappling hook, then activates night vision goggles.
9. The villain zaps the security lock, then blasts away using rocket boots.
10. The villain zaps the security lock, then blocks the darts with a force field.
11. The villain swings with a grappling hook, then deploys a scout mini drone.
12. The villain glides over the temple wall, then swims through the flooded passage.

Answer Key

The Temple Map Mystery

Culprit: Katniss Everdeen

Smoke Bombs · Night Vision Goggles · Left-Handed · Brown Hair · Heavy Magnet

Trail: Start 21 → Clue 1 18 → Clue 2 14 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE TARGET DOES NOT USE A FORCE FIELD"

$\frac{3}{8}$ of 152 = 57 (T) · $\frac{2}{5}$ of 100 = 40 (O) · $\frac{5}{10}$ of 112 = 56 (E) · $\frac{1}{4}$ of 48 = 12 (G) · $\frac{1}{2}$ of 82 = 41 (I) · $\frac{1}{8}$ of 128 = 16 (C) · $\frac{3}{10}$ of 170 = 51 (L) · $\frac{6}{10}$ of 25 = 15 (D) · $\frac{3}{6}$ of 90 = 45 (U) · $\frac{2}{8}$ of 148 = 37 (A) · $\frac{2}{6}$ of 33 = 11 (N) · $\frac{1}{2}$ of 108 = 54 (S) · $\frac{4}{8}$ of 64 = 32 (H) · $\frac{2}{10}$ of 25 = 5 (F) · $\frac{1}{2}$ of 118 = 59 (R)

Clue 2 (Exponents): "THE THIEF LEAVES LEFT HANDED SMUDGES"

$13^2 = 169$ (T) · $2^3 = 8$ (S) · $3^6 = 729$ (L) · $12^2 = 144$ (U) · $22^2 = 484$ (I) · $7^2 = 49$ (H) · $2^5 = 32$ (G) · $14^2 = 196$ (E) · $4^2 = 16$ (D) · $7^3 = 343$ (F) · $10^2 = 100$ (N) · $2^7 = 128$ (M) · $17^2 = 289$ (V) · $5^3 = 125$ (A)

Clue 3 (Square roots): "THE TARGET WAS HALTED BY A HEAVY MAGNET"

$\sqrt{169} = 13$ (T) · $\sqrt{16} = 4$ (R) · $\sqrt{225} = 15$ (N) · $\sqrt{400} = 20$ (Y) · $\sqrt{441} = 21$ (G) · $\sqrt{144} = 12$ (B) · $\sqrt{64} = 8$ (E) · $\sqrt{324} = 18$ (D) · $\sqrt{49} = 7$ (V) · $\sqrt{196} = 14$ (W) · $\sqrt{256} = 16$ (M) · $\sqrt{484} = 22$ (L) · $\sqrt{289} = 17$ (A) · $\sqrt{625} = 25$ (H) · $\sqrt{121} = 11$ (S)

Clue 4 (Pythagorean theorem): "WE FOUND A BROWN HAIR STRAND"

legs 20 and 21, hypotenuse = 29 (W) · legs 40 and 42, hypotenuse = 58 (D) · legs 8 and 15, hypotenuse = 17 (O) · legs 16 and 30, hypotenuse = 34 (N) · legs 20 and 48, hypotenuse = 52 (I) · legs 5 and 12, hypotenuse = 13 (B) · legs 12 and 16, hypotenuse = 20 (F) · legs 12 and 35, hypotenuse = 37 (S) · legs 18 and 24, hypotenuse = 30 (T) · legs 9 and 40, hypotenuse = 41 (E) · legs 18 and 80, hypotenuse = 82 (R) · legs 25 and 60, hypotenuse = 65 (H) · legs 24 and 32, hypotenuse = 40 (A) · legs 3 and 4, hypotenuse = 5 (U)

Clue 5 (Fractions of a number): surviving statement is box 7 → Katniss Everdeen

$\frac{5}{8}$ of 8 = 5 · $\frac{3}{6}$ of 16 = 8 · $\frac{2}{6}$ of 33 = 11 · $\frac{2}{8}$ of 4 = 1 · $\frac{2}{4}$ of 18 = 9 · $\frac{4}{10}$ of 15 = 6 · $\frac{6}{10}$ of 20 = 12 · $\frac{2}{3}$ of 3 = 2 · $\frac{1}{8}$ of 80 = 10 · $\frac{4}{5}$ of 5 = 4 · $\frac{6}{8}$ of 4 = 3