



The Whispering Jungle Mystery

Grade 8 math · Exponents, Square roots, Pythagorean theorem, Order of operations, Two-step equations · Reading level grades 1-2

Detective: _____ **Date:** _____

Oh no! The legendary Golden Compass has vanished from the base camp. A sneaky Temple Thief took it and ran into the deep jungle. Our team of Junior Explorers must track them down before they escape!

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 Temple Thief is _____

Possible suspects

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

NAME	JUNGLE SKILL	ANIMAL BUDDY	HAND GRIP	HAIR STYLE	SECRET FEAR
Maya Mountain	cracks the secret ancient codes	commands army ants	left handed tool grip	messy brown hair	scared of frogs
Gus Guide	climbs up high temple walls	rides giant green frogs	right handed tool grip	messy brown hair	tickled by feathers
Benny Bold	cracks the secret ancient codes	flies small gliders	right handed tool grip	messy brown hair	hates cold water
Sally Scout	cracks the secret ancient codes	rides giant green frogs	left handed tool grip	messy brown hair	tickled by feathers
Daisy Daring	digs quick dirt tunnels	whispers to bats	left handed tool grip	bright red hair	hates cold water
Diego Rescuer	climbs up high temple walls	flies small gliders	right handed tool grip	messy brown hair	hates cold water
Rex Rescue	swings on long jungle vines	tames wild boars	left handed tool grip	spiky black hair	scared of frogs
Penny Pathfinder	climbs up high temple walls	tames wild boars	right handed tool grip	spiky black hair	tickled by feathers
Toby Trekker	jumps over wide rushing rivers	whispers to bats	right handed tool grip	spiky black hair	tickled by feathers
Skip Skipper	cracks the secret ancient codes	tames wild boars	left handed tool grip	messy brown hair	hates cold water
Alex Adventurer	digs quick dirt tunnels	tames wild boars	right handed tool grip	bright red hair	scared of frogs
Zack Zoom	climbs up high temple walls	tames wild boars	left handed tool grip	messy brown hair	tickled by feathers
Bindi Bush	climbs up high temple walls	rides giant green frogs	left handed tool grip	bright red hair	hates cold water
Dora Explorer	cracks the secret ancient codes	rides giant green frogs	right handed tool grip	spiky black hair	tickled by feathers
Steve Swamp	swings on long jungle vines	whispers to bats	right handed tool grip	spiky black hair	tickled by feathers
Indiana Jones	digs quick dirt tunnels	rides giant green frogs	right handed tool grip	bright red hair	hates cold water
Cody Canyon	cracks the secret ancient codes	tames wild boars	right handed tool grip	bright red hair	hates cold water
Wanda Wanderer	climbs up high temple walls	rides giant green frogs	right handed tool grip	spiky black hair	hates cold water
Ranger Rick	digs quick dirt tunnels	rides giant green frogs	right handed tool grip	messy brown hair	hates cold water
Barnaby Bones	swings on long jungle vines	whispers to bats	right handed tool grip	messy brown hair	hates cold water
Roxy River	swings on long jungle vines	rides giant green frogs	right handed tool grip	messy brown hair	hates cold water

CLUE 1 Exponents

We find a locked chest. The lock has a small screen. The numbers double every second. We must find the power of the exponent to open it.

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

T			T											T
289	9	484	289	9	8	484	169	100	512	484	27	361	512	289

							T				T	
441	9	8	27	49	484	243	289	512	729	121	289	27

$17^2 = \square \rightarrow$ T	$3^5 = \square \rightarrow$ R	$22^2 = \square \rightarrow$ E	$3^2 = \square \rightarrow$ H
$11^2 = \square \rightarrow$ A	$7^2 = \square \rightarrow$ P	$2^3 = \square \rightarrow$ I	$2^9 = \square \rightarrow$ O
$9^3 = \square \rightarrow$ B	$13^2 = \square \rightarrow$ F	$3^3 = \square \rightarrow$ S	$21^2 = \square \rightarrow$ W
$10^2 = \square \rightarrow$ D	$19^2 = \square \rightarrow$ N		

Scratch space:

CLUE 2 Square roots

The temple floor has shiny square tiles. It is a perfect square grid. We find the root of the tiles to walk safely across.

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

T			T										T				
19	7	12	19	7	8	12	21	22	14	8	16	20	19	10	10	24	20
		T		T								T					
5	8	19	7	19	7	12		14	8	22	7	19	7	18	3	17	

$\sqrt{361} = \square \rightarrow \boxed{\text{T}}$

$\sqrt{144} = \square \rightarrow \boxed{\text{E}}$

$\sqrt{196} = \square \rightarrow \boxed{\text{R}}$

$\sqrt{9} = \square \rightarrow \boxed{\text{N}}$

$\sqrt{324} = \square \rightarrow \boxed{\text{A}}$

$\sqrt{576} = \square \rightarrow \boxed{\text{L}}$

$\sqrt{49} = \square \rightarrow \boxed{\text{H}}$

$\sqrt{256} = \square \rightarrow \boxed{\text{P}}$

$\sqrt{100} = \square \rightarrow \boxed{\text{O}}$

$\sqrt{441} = \square \rightarrow \boxed{\text{F}}$

$\sqrt{484} = \square \rightarrow \boxed{\text{G}}$

$\sqrt{289} = \square \rightarrow \boxed{\text{D}}$

$\sqrt{25} = \square \rightarrow \boxed{\text{W}}$

$\sqrt{64} = \square \rightarrow \boxed{\text{I}}$

$\sqrt{400} = \square \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 3

Pythagorean theorem

A heavy vine hangs down. It makes a triangle with the wall and the ground. We find the long side to climb up.

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

T			T							T							
50	13	74	50	13	82	74	34	13	52	50	74	5	17	74	82	41	25
										T					T		
5	75	68	52	5	13	74	51	39	82	50	13	39	52	50	74	30	

legs 14 and 48, hypotenuse = → **T**

legs 3 and 4, hypotenuse = → **S**

legs 32 and 60, hypotenuse = → **L**

legs 8 and 15, hypotenuse = → **B**

legs 7 and 24, hypotenuse = → **G**

legs 9 and 40, hypotenuse = → **N**

legs 16 and 30, hypotenuse = → **F**

legs 21 and 72, hypotenuse = → **P**

legs 24 and 45, hypotenuse = → **D**

legs 5 and 12, hypotenuse = → **H**

legs 18 and 80, hypotenuse = → **I**

legs 20 and 48, hypotenuse = → **A**

legs 24 and 70, hypotenuse = → **E**

legs 18 and 24, hypotenuse = → **R**

legs 15 and 36, hypotenuse = → **W**

Scratch space:

CLUE 4

Order of operations

To get past the giant stone head, we must pull the wooden levers. We must do the steps in the exact right order.

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

W													W			
26	62	36	115	27	48	93	102	62	51	51	119	103	118	115	26	48
56	47	83	118	115	48	35	56	62	103	118	47	48	95	56		

$5 \times 11 - 29 = \square \rightarrow \boxed{W}$

$26 + 3 \times 3 = \square \rightarrow \boxed{T}$

$82 + 7 \times 3 = \square \rightarrow \boxed{B}$

$50 + 3 \times 2 = \square \rightarrow \boxed{H}$

$21 + 3 \times 9 = \square \rightarrow \boxed{N}$

$7 \times 11 - 15 = \square \rightarrow \boxed{E}$

$10 \times 11 - 8 = \square \rightarrow \boxed{M}$

$56 + 9 \times 7 = \square \rightarrow \boxed{Y}$

$8 \times 7 - 20 = \square \rightarrow \boxed{F}$

$6 + 5 \times 9 = \square \rightarrow \boxed{S}$

$91 + 2 \times 2 = \square \rightarrow \boxed{C}$

$11 \times 11 - 6 = \square \rightarrow \boxed{O}$

$98 + 5 \times 4 = \square \rightarrow \boxed{R}$

$8 \times 12 - 3 = \square \rightarrow \boxed{D}$

$29 + 2 \times 9 = \square \rightarrow \boxed{A}$

$75 + 4 \times 2 = \square \rightarrow \boxed{I}$

$6 + 3 \times 7 = \square \rightarrow \boxed{U}$

Scratch space:

CLUE 5**Two-step equations - the last clue**

We find a heavy balance scale. It holds stone gears. We solve the equation to balance the scale and open the door.

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:

$4x + 4 = 44, x = \boxed{}$

$6x + 12 = 60, x = \boxed{}$

$5x + 6 = 51, x = \boxed{}$

$4x + 7 = 11, x = \boxed{}$

$5x + 10 = 70, x = \boxed{}$

$5x + 9 = 64, x = \boxed{}$

$6x + 2 = 14, x = \boxed{}$

$5x + 7 = 42, x = \boxed{}$

$6x + 7 = 43, x = \boxed{}$

$5x + 6 = 26, x = \boxed{}$

$3x + 2 = 11, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain climbs up high temple walls, then rides giant green frogs away.
2. The villain digs quick dirt tunnels, then tames wild boars to escape.
3. The villain digs quick dirt tunnels, then whispers to bats to create a distraction.
4. The villain digs quick dirt tunnels, then flies small gliders off the cliff.
5. The villain digs quick dirt tunnels, then rides giant green frogs away.
6. The villain cracks the secret ancient codes, then tames wild boars to escape.
7. The villain cracks the secret ancient codes, then rides giant green frogs away.
8. The villain swings on long jungle vines, then rides giant green frogs away.
9. The villain climbs up high temple walls, then flies small gliders off the cliff.
10. The villain cracks the secret ancient codes, then flies small gliders off the cliff.
11. The villain jumps over wide rushing rivers, then rides giant green frogs away.
12. The villain swings on long jungle vines, then flies small gliders off the cliff.

Answer Key

The Whispering Jungle Mystery

Culprit: Ranger Rick

digs quick dirt tunnels · rides giant green frogs · right handed tool grip · messy brown hair · hates cold water

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Exponents): "THE THIEF DOES NOT WHISPER TO BATS"

$17^2 = 289$ (T) · $3^5 = 243$ (R) · $22^2 = 484$ (E) · $3^2 = 9$ (H) · $11^2 = 121$ (A) · $7^2 = 49$ (P) · $2^3 = 8$ (I) · $2^9 = 512$ (O) · $9^3 = 729$ (B) · $13^2 = 169$ (F) · $3^3 = 27$ (S) · $21^2 = 441$ (W) · $10^2 = 100$ (D) · $19^2 = 361$ (N)

Clue 2 (Square roots): "THE THIEF GRIPS TOOLS WITH THE RIGHT HAND"

$\sqrt{361} = 19$ (T) · $\sqrt{144} = 12$ (E) · $\sqrt{196} = 14$ (R) · $\sqrt{9} = 3$ (N) · $\sqrt{324} = 18$ (A) · $\sqrt{576} = 24$ (L) · $\sqrt{49} = 7$ (H) · $\sqrt{256} = 16$ (P) · $\sqrt{100} = 10$ (O) · $\sqrt{441} = 21$ (F) · $\sqrt{484} = 22$ (G) · $\sqrt{289} = 17$ (D) · $\sqrt{25} = 5$ (W) · $\sqrt{64} = 8$ (I) · $\sqrt{400} = 20$ (S)

Clue 3 (Pythagorean theorem): "THE THIEF HATES BEING SPLASHED WITH WATER"

legs 14 and 48, hypotenuse = 50 (T) · legs 3 and 4, hypotenuse = 5 (S) · legs 32 and 60, hypotenuse = 68 (L) · legs 8 and 15, hypotenuse = 17 (B) · legs 7 and 24, hypotenuse = 25 (G) · legs 9 and 40, hypotenuse = 41 (N) · legs 16 and 30, hypotenuse = 34 (F) · legs 21 and 72, hypotenuse = 75 (P) · legs 24 and 45, hypotenuse = 51 (D) · legs 5 and 12, hypotenuse = 13 (H) · legs 18 and 80, hypotenuse = 82 (I) · legs 20 and 48, hypotenuse = 52 (A) · legs 24 and 70, hypotenuse = 74 (E) · legs 18 and 24, hypotenuse = 30 (R) · legs 15 and 36, hypotenuse = 39 (W)

Clue 4 (Order of operations): "WE FOUND MESSY BROWN HAIR ON THE BRANCH"

$5 \times 11 - 29 = 26$ (W) · $26 + 3 \times 3 = 35$ (T) · $82 + 7 \times 3 = 103$ (B) · $50 + 3 \times 2 = 56$ (H) · $21 + 3 \times 9 = 48$ (N) · $7 \times 11 - 15 = 62$ (E) · $10 \times 11 - 8 = 102$ (M) · $56 + 9 \times 7 = 119$ (Y) · $8 \times 7 - 20 = 36$ (F) · $6 + 5 \times 9 = 51$ (S) · $91 + 2 \times 2 = 95$ (C) · $11 \times 11 - 6 = 115$ (O) · $98 + 5 \times 4 = 118$ (R) · $8 \times 12 - 3 = 93$ (D) · $29 + 2 \times 9 = 47$ (A) · $75 + 4 \times 2 = 83$ (I) · $6 + 3 \times 7 = 27$ (U)

Clue 5 (Two-step equations): surviving statement is box 5 → Ranger Rick

$4x + 4 = 44$, $x = 10$ · $6x + 12 = 60$, $x = 8$ · $5x + 6 = 51$, $x = 9$ · $4x + 7 = 11$, $x = 1$ · $5x + 10 = 70$, $x = 12$ · $5x + 9 = 64$, $x = 11$ · $6x + 2 = 14$, $x = 2$ · $5x + 7 = 42$, $x = 7$ · $6x + 7 = 43$, $x = 6$ · $5x + 6 = 26$, $x = 4$ · $3x + 2 = 11$, $x = 3$