



The Mystery of the Golden Mask

Grade 7 math · Fractions of a number, Word problems, Multi-step word problems, Multiplication · Reading level grades 5-6

Detective: _____ Date: _____

The golden mask of King Tut-Tut has vanished from the Jungle Museum! A mysterious thief sneaked past the security cameras, grabbed the mask, and escaped into the thick jungle canopy. The Junior Rangers must follow the trail, solve the puzzles, and recover the artifact before it leaves the island.

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	ADVENTURE GEAR	SPECIAL SKILL	WRITING HAND	CAP COLOR	FEARS
Bindi	mapping drone	code breaking	right handed writer	blue cap	squeaky bats
Lewis	laser torch	code breaking	right handed writer	blue cap	sticky sap
Zane	brass compass	snake charming	left handed writer	blue cap	tiny spiders
Amelia	laser torch	code breaking	left handed writer	red cap	squeaky bats
Toby	laser torch	high jumping	right handed writer	red cap	squeaky bats
Darwin	brass compass	snake charming	left handed writer	red cap	squeaky bats
Brody	grapple hook	high jumping	left handed writer	blue cap	tiny spiders
Wyatt	brass compass	snake charming	left handed writer	blue cap	sticky sap
Steve	grapple hook	lock picking	right handed writer	blue cap	sticky sap
Skye	grapple hook	lock picking	right handed writer	blue cap	squeaky bats
Indiana	grapple hook	code breaking	right handed writer	blue cap	sticky sap
Jax	sound blaster	map reading	right handed writer	blue cap	squeaky bats
Jesse	sound blaster	lock picking	right handed writer	blue cap	squeaky bats
Clark	sound blaster	map reading	right handed writer	blue cap	sticky sap
Freya	mapping drone	snake charming	right handed writer	green cap	squeaky bats
Kip	mapping drone	snake charming	right handed writer	blue cap	tiny spiders
Marco	sound blaster	map reading	right handed writer	red cap	tiny spiders
Cleo	mapping drone	high jumping	right handed writer	blue cap	tiny spiders
Sacagawea	mapping drone	code breaking	left handed writer	blue cap	squeaky bats
Cora	mapping drone	high jumping	right handed writer	blue cap	squeaky bats
Nellie	grapple hook	snake charming	right handed writer	blue cap	squeaky bats

CLUE 1
Fractions of a number

To track the thief's escape path, we must calculate the fuel usage of our explorer jeep over several bumpy legs of the jungle trail.

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

T																	T
16	54	22	19	42	38	38	53	42	4	25	39	22	49	4	39	16	
				T													
54	53	19	22	16	54	22	38	39	44	13	40	42	44	13	42	4	3
49	13	42	38	38													

$1/10 \text{ of } 160 = \square \rightarrow \text{T}$

$4/5 \text{ of } 5 = \square \rightarrow \text{N}$

$4/8 \text{ of } 88 = \square \rightarrow \text{C}$

$2/4 \text{ of } 26 = \square \rightarrow \text{K}$

$1/4 \text{ of } 76 = \square \rightarrow \text{V}$

$1/6 \text{ of } 150 = \square \rightarrow \text{D}$

$2/4 \text{ of } 80 = \square \rightarrow \text{P}$

$1/4 \text{ of } 12 = \square \rightarrow \text{G}$

$4/6 \text{ of } 57 = \square \rightarrow \text{L}$

$3/6 \text{ of } 106 = \square \rightarrow \text{A}$

$4/6 \text{ of } 63 = \square \rightarrow \text{I}$

$3/8 \text{ of } 104 = \square \rightarrow \text{O}$

$5/10 \text{ of } 108 = \square \rightarrow \text{H}$

$1/5 \text{ of } 110 = \square \rightarrow \text{E}$

$1/2 \text{ of } 98 = \square \rightarrow \text{S}$

Scratch space:

CLUE 2

Word problems

The thief dropped a trail of heavy gear. We need to find the total weight of the discarded supplies to see how fast they are moving.

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	W	R			E	R
9	29	114	116	117	116	55	108					9	29	117		9	

Professor Flint found 6 gold coins yesterday and 3 more today. How many gold coins in all?

Answer: → **R**

Professor Flint found 83 energy crystals yesterday and 25 more today. How many energy crystals in all?

Answer: → **N**

Professor Flint found 7 rope coils yesterday and 109 more today. How many rope coils in all?

Answer: → **H**

Professor Flint found 28 gold coins yesterday and 86 more today. How many gold coins in all?

Answer: → **G**

There were 64 ancient maps. 35 were used up. How many ancient maps are left?

Answer: → **I**

Professor Flint found 8 stone idols yesterday and 109 more today. How many stone idols in all?

Answer: → **T**

Professor Flint lined up 5 rows of 11 ancient maps. How many ancient maps in all?

Answer: → **A**

Scratch space:

CLUE 3

Multi-step word problems

A friendly troop of capuchin monkeys saw the villain. They will share their clues only if we help them divide their gathered bananas evenly.

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

Someone scared the villain off with S B T S .

51 36 71 80 24 78 56 24 51

Professor Flint filled 6 boxes with 2 energy crystals each, then found 39 more energy crystals. How many energy crystals are there in all?

Answer: → S

There were 424 stone idols in all. 34 stone idols were set aside. The rest were shared equally among 5 Junior Rangers. How many stone idols did each get?

Answer: → K

There were 748 ancient maps in all. 28 ancient maps were set aside. The rest were shared equally among 9 Junior Rangers. How many ancient maps did each get?

Answer: → E

Professor Flint earned 6 gold coins in each of 2 rounds, plus 48 bonus gold coins. Then 4 gold coins were lost. How many gold coins are left?

Answer: → Y

Professor Flint earned 6 energy crystals in each of 6 rounds, plus 1 bonus energy crystals. Then 13 energy crystals were lost. How many energy crystals are left?

Answer: → A

Professor Flint earned 2 stone idols in each of 4 rounds, plus 73 bonus stone idols. Then 10 stone idols were lost. How many stone idols are left?

Answer: → U

There were 92 rope coils in all. 20 rope coils were set aside. The rest were shared equally among 2 Junior Rangers. How many rope coils did each get?

Answer: → Q

Scratch space:

CLUE 4
Multiplication facts (1-12)

The ancient temple floor is covered in a grid of traps. We must multiply the rows of pressure plates to find a safe path across.

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

T					T			T										
16	8	50	99	50	16	50	15	16	12	108	50	110	84	48	81	99	5	
				T														
33	70	48	50	16	8	121	50	5	99									

$8 \times 2 = \square \rightarrow$ T	$12 \times 4 = \square \rightarrow$ U	$3 \times 5 = \square \rightarrow$ C
$11 \times 9 = \square \rightarrow$ D	$12 \times 9 = \square \rightarrow$ V	$2 \times 6 = \square \rightarrow$ I
$11 \times 11 = \square \rightarrow$ R	$1 \times 5 = \square \rightarrow$ A	$2 \times 4 = \square \rightarrow$ H
$10 \times 7 = \square \rightarrow$ L	$11 \times 10 = \square \rightarrow$ F	$12 \times 7 = \square \rightarrow$ O
$9 \times 9 = \square \rightarrow$ N	$5 \times 10 = \square \rightarrow$ E	$11 \times 3 = \square \rightarrow$ B

Scratch space:

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

We found a locked stone door with crystal slots. To unlock it, we must calculate exactly what fraction of our energy crystals are fully charged.

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:

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

$2/5 \text{ of } 25 = \boxed{}$

$1/4 \text{ of } 20 = \boxed{}$

$3/6 \text{ of } 18 = \boxed{}$

$2/3 \text{ of } 18 = \boxed{}$

$5/10 \text{ of } 22 = \boxed{}$

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

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

$7/10 \text{ of } 10 = \boxed{}$

$1/10 \text{ of } 80 = \boxed{}$

$3/10 \text{ of } 20 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blasted the stone rubble with a sound blaster, then opened the treasure chest using lock picking.
2. The villain swung across the canyon with a grapple hook, then calmed the pit of vipers using snake charming.
3. The villain blasted the stone rubble with a sound blaster, then found the hidden path using map reading.
4. The villain navigated the dark tunnels with a brass compass, then opened the treasure chest using lock picking.
5. The villain scouted the temple roof with a mapping drone, then leaped over the pit using high jumping.
6. The villain swung across the canyon with a grapple hook, then solved the ancient puzzle using code breaking.
7. The villain navigated the dark tunnels with a brass compass, then solved the ancient puzzle using code breaking.
8. The villain scouted the temple roof with a mapping drone, then opened the treasure chest using lock picking.
9. The villain blasted the stone rubble with a sound blaster, then solved the ancient puzzle using code breaking.
10. The villain scouted the temple roof with a mapping drone, then solved the ancient puzzle using code breaking.
11. The villain navigated the dark tunnels with a brass compass, then leaped over the pit using high jumping.
12. The villain melted the iron gates with a laser torch, then opened the treasure chest using lock picking.

Answer Key

The Mystery of the Golden Mask

Culprit: Nellie

grapple hook · snake charming · right handed writer · blue cap · squeaky bats

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT HAVE THE LOCK PICKING SKILL"

$1/10$ of 160 = 16 (T) · $4/5$ of 5 = 4 (N) · $4/8$ of 88 = 44 (C) · $2/4$ of 26 = 13 (K) · $1/4$ of 76 = 19 (V) · $1/6$ of 150 = 25 (D) · $2/4$ of 80 = 40 (P) · $1/4$ of 12 = 3 (G) · $4/6$ of 57 = 38 (L) · $3/6$ of 106 = 53 (A) · $4/6$ of 63 = 42 (I) · $3/8$ of 104 = 39 (O) · $5/10$ of 108 = 54 (H) · $1/5$ of 110 = 22 (E) · $1/2$ of 98 = 49 (S)

Clue 2 (Word problems): "RIGHT HANDED WRITER"

Professor Flint found 6 gold coins yesterday and 3 more today. How many gold coins in all? = 9 (R) · Professor Flint found 83 energy crystals yesterday and 25 more today. How many energy crystals in all? = 108 (N) · Professor Flint found 7 rope coils yesterday and 109 more today. How many rope coils in all? = 116 (H) · Professor Flint found 28 gold coins yesterday and 86 more today. How many gold coins in all? = 114 (G) · There were 64 ancient maps. 35 were used up. How many ancient maps are left? = 29 (I) · Professor Flint found 8 stone idols yesterday and 109 more today. How many stone idols in all? = 117 (T) · Professor Flint lined up 5 rows of 11 ancient maps. How many ancient maps in all? = 55 (A)

Clue 3 (Multi-step word problems): "SQUEAKY BATS"

Professor Flint filled 6 boxes with 2 energy crystals each, then found 39 more energy crystals. How many energy crystals are there in all? = 51 (S) · There were 424 stone idols in all. 34 stone idols were set aside. The rest were shared equally among 5 Junior Rangers. How many stone idols did each get? = 78 (K) · There were 748 ancient maps in all. 28 ancient maps were set aside. The rest were shared equally among 9 Junior Rangers. How many ancient maps did each get? = 80 (E) · Professor Flint earned 6 gold coins in each of 2 rounds, plus 48 bonus gold coins. Then 4 gold coins were lost. How many gold coins are left? = 56 (Y) · Professor Flint earned 6 energy crystals in each of 6 rounds, plus 1 bonus energy crystals. Then 13 energy crystals were lost. How many energy crystals are left? = 24 (A) · Professor Flint earned 2 stone idols in each of 4 rounds, plus 73 bonus stone idols. Then 10 stone idols were lost. How many stone idols are left? = 71 (U) · There were 92 rope coils in all. 20 rope coils were set aside. The rest were shared equally among 2 Junior Rangers. How many rope coils did each get? = 36 (Q)

Clue 4 (Multiplication facts (1-12)): "THE DETECTIVE FOUND A BLUE THREAD"

$8 \times 2 = 16$ (T) · $12 \times 4 = 48$ (U) · $3 \times 5 = 15$ (C) · $11 \times 9 = 99$ (D) · $12 \times 9 = 108$ (V) · $2 \times 6 = 12$ (I) · $11 \times 11 = 121$ (R) · $1 \times 5 = 5$ (A) · $2 \times 4 = 8$ (H) · $10 \times 7 = 70$ (L) · $11 \times 10 = 110$ (F) · $12 \times 7 = 84$ (O) · $9 \times 9 = 81$ (N) · $5 \times 10 = 50$ (E) · $11 \times 3 = 33$ (B)

Clue 5 (Fractions of a number): surviving statement is box 2 → Nellie

$3/6$ of 6 = 3 · $2/5$ of 25 = 10 · $1/4$ of 20 = 5 · $3/6$ of 18 = 9 · $2/3$ of 18 = 12 · $5/10$ of 22 = 11 · $2/4$ of 8 = 4 · $1/4$ of 4 = 1 · $7/10$ of 10 = 7 · $1/10$ of 80 = 8 · $3/10$ of 20 = 6