



The Case of the Missing Golden Compass

Grade 6 math · Percentages, Multi-step word problems, Exponents, Order of operations, Division · Reading level grades 3-4

Detective: _____ Date: _____

Someone snaked the legendary Golden Compass from the main cabin! Our Head Ranger needs the camp's best trackers to solve the mystery. We must follow the clues left behind on the jungle trails to find 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 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	SPECIAL GEAR	CAMP BADGE	COMPASS HAND	CAP COLOR	SILLY WEAKNESS
Nellie	Laser Pointer	Map Maker	Right Handed	Blue Cap	Loud Noises
Diego	Grappling Hook	Star Tracker	Left Handed	Green Cap	Tickles
Jacques	Climbing Rope	Star Tracker	Right Handed	Green Cap	Loud Noises
Lewis	Grappling Hook	Jungle Guide	Right Handed	Blue Cap	Shiny Things
Indiana	Grappling Hook	Camp Cook	Right Handed	Green Cap	Loud Noises
Zane	Climbing Rope	Knot Master	Right Handed	Green Cap	Tickles
Evie	Flashlight	Camp Cook	Right Handed	Red Cap	Tickles
Nathan	Flashlight	Jungle Guide	Right Handed	Green Cap	Loud Noises
Marco	Grappling Hook	Map Maker	Left Handed	Red Cap	Loud Noises
Brody	Climbing Rope	Jungle Guide	Right Handed	Red Cap	Tickles
Wendy	Laser Pointer	Jungle Guide	Right Handed	Blue Cap	Loud Noises
Lara	Grappling Hook	Knot Master	Left Handed	Red Cap	Shiny Things
Flynn	Night Visor	Knot Master	Right Handed	Green Cap	Loud Noises
Roald	Night Visor	Map Maker	Right Handed	Red Cap	Shiny Things
Rick	Climbing Rope	Map Maker	Left Handed	Green Cap	Loud Noises
Ernest	Night Visor	Jungle Guide	Left Handed	Blue Cap	Loud Noises
Clara	Flashlight	Knot Master	Left Handed	Red Cap	Shiny Things
Dora	Flashlight	Map Maker	Right Handed	Green Cap	Tickles
Edmund	Climbing Rope	Map Maker	Right Handed	Blue Cap	Shiny Things
Hudson	Climbing Rope	Map Maker	Right Handed	Green Cap	Loud Noises
Sylvia	Grappling Hook	Map Maker	Right Handed	Green Cap	Tickles

CLUE 1 Percentages

We found a messy gear log inside the main cabin. We must count the total packs and subtract the lost ones to find the suspect's direction.

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

T																
31	43	19	10	23	19	1	28	43	1	10	23	18	14	1	8	17
14	18	18	28	36	1	27	30	19								

$20\% \text{ of } 155 = \square \rightarrow \boxed{\text{T}}$

$10\% \text{ of } 230 = \square \rightarrow \boxed{\text{N}}$

$25\% \text{ of } 72 = \square \rightarrow \boxed{\text{O}}$

$20\% \text{ of } 40 = \square \rightarrow \boxed{\text{M}}$

$5\% \text{ of } 540 = \square \rightarrow \boxed{\text{D}}$

$20\% \text{ of } 50 = \square \rightarrow \boxed{\text{S}}$

$5\% \text{ of } 20 = \square \rightarrow \boxed{\text{A}}$

$10\% \text{ of } 140 = \square \rightarrow \boxed{\text{C}}$

$10\% \text{ of } 190 = \square \rightarrow \boxed{\text{E}}$

$40\% \text{ of } 70 = \square \rightarrow \boxed{\text{K}}$

$10\% \text{ of } 360 = \square \rightarrow \boxed{\text{B}}$

$50\% \text{ of } 34 = \square \rightarrow \boxed{\text{P}}$

$25\% \text{ of } 172 = \square \rightarrow \boxed{\text{H}}$

$5\% \text{ of } 600 = \square \rightarrow \boxed{\text{G}}$

Scratch space:

CLUE 2 Multi-step word problems

Our tracking radar is losing power quickly. We must calculate the percentage of battery life left to lock onto the trail.

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
18	86	36	20	76	20	33	79				

.

Ranger Leo collected 40 jungle maps in the morning and 14 jungle maps in the afternoon, then split them equally among 3 Junior Pathfinders. How many jungle maps did each get?

Answer: → **R**

Ranger Leo earned 6 trail markers in each of 6 rounds, plus 55 bonus trail markers. Then 12 trail markers were lost. How many trail markers are left?

Answer: → **N**

Ranger Leo filled 4 boxes with 6 canteen cups each, then found 12 more canteen cups. How many canteen cups are there in all?

Answer: → **G**

There were 181 compasses in all. 29 compasses were set aside. The rest were shared equally among 2 Junior Pathfinders. How many compasses did each get?

Answer: → **T**

Ranger Leo earned 2 compasses in each of 6 rounds, plus 16 bonus compasses. Then 8 compasses were lost. How many compasses are left?

Answer: → **H**

Ranger Leo earned 6 compasses in each of 2 rounds, plus 81 bonus compasses. Then 7 compasses were lost. How many compasses are left?

Answer: → **I**

Ranger Leo filled 4 boxes with 6 canteen cups each, then found 9 more canteen cups. How many canteen cups are there in all?

Answer: → **A**

Scratch space:

CLUE 3

A locked metal chest blocks the jungle path. We need to solve the repeated multiplication code to pop the lock open.

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

Diagram illustrating the distribution of 1000 people across 10 groups, with 100 people in each group. The groups are arranged in two rows of five. The first row shows groups 1 to 5, and the second row shows groups 6 to 10. Groups 1, 3, 5, 7, 9, and 10 are empty. Groups 2, 4, 6, and 8 contain 100 people each, indicated by an orange box with the letter 'L'.

Group	People
1	0
2	100
3	0
4	100
5	0
6	100
7	0
8	100
9	0
10	0

$$5^3 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$17^2 = \boxed{} \rightarrow \boxed{0}$$

$$20^2 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$18^2 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$$5^2 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$4^2 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$14^2 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$2^5 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2^2 = \boxed{} \rightarrow \mathbf{D}$$

$$3^2 = \boxed{} \rightarrow \boxed{\mathbf{W}}$$

$$3^4 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$$6^3 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$7^2 = \boxed{} \rightarrow \boxed{}$

$$11^2 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$3^5 = \boxed{} \rightarrow \boxed{\text{H}}$$

Scratch space:

CLUE 4 Order of operations

The old stone gate has four glowing buttons. We have to solve the equation in the exact right order to slide the gate open safely.

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

61 73 41 36 11 22 25 11 41 28 28 66 56 61 51

10 36 73 28 41 59 61 54 32 28 10 25

$$10 \times 8 - 19 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$26 + 8 \times 5 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$29 + 2 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$1 + 5 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$7 \times 10^{-11} = \boxed{} \rightarrow \boxed{\text{W}}$$

$9 \times 7 - 7 = \square \rightarrow \boxed{\text{C}}$

$5 \times 8 - 15 = \boxed{} \rightarrow \boxed{\text{T}}$

$$24 + 5 \times 6 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$10 + 6 \times 2 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$11 \times 7 - 26 = \boxed{} \rightarrow \boxed{\text{P}}$$

$7 \times 11 - 4 = \boxed{} \rightarrow \boxed{\text{B}}$

$$7 + 5 \times 5 = \boxed{} \rightarrow \boxed{\text{L}}$$

$1 + 3 \times 3 = \square \rightarrow \boxed{\text{F}}$

$$10 \times 5 - 14 = \boxed{} \rightarrow \boxed{\text{I}}$$

$7 + 3 \times 7 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 5**Division facts (1-12) - the last clue**

We discovered a wooden box of ancient trail markers. Sharing them equally among the crew reveals our final path.

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:

$28 \div 4 = \boxed{}$

$10 \div 2 = \boxed{}$

$99 \div 9 = \boxed{}$

$12 \div 2 = \boxed{}$

$72 \div 8 = \boxed{}$

$4 \div 1 = \boxed{}$

$72 \div 9 = \boxed{}$

$22 \div 11 = \boxed{}$

$8 \div 8 = \boxed{}$

$36 \div 3 = \boxed{}$

$50 \div 5 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain coils a climbing rope, then bakes a camp cookie.
2. The villain swings a grappling hook, then leads the way.
3. The villain coils a climbing rope, then draws a map.
4. The villain shines a laser pointer, then ties a double knot.
5. The villain shines a night visor, then ties a double knot.
6. The villain coils a climbing rope, then ties a double knot.
7. The villain coils a climbing rope, then checks the stars.
8. The villain clicks a flashlight, then draws a map.
9. The villain clicks a flashlight, then bakes a camp cookie.
10. The villain swings a grappling hook, then ties a double knot.
11. The villain clicks a flashlight, then leads the way.
12. The villain shines a laser pointer, then leads the way.

Answer Key

The Case of the Missing Golden Compass

Culprit: Hudson

Climbing Rope · Map Maker · Right Handed · Green Cap · Loud Noises

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Percentages): "THE SNEAK HAS NO CAMP COOK BADGE"

20% of 155 = 31 (T) · 10% of 230 = 23 (N) · 25% of 72 = 18 (O) · 20% of 40 = 8 (M) · 5% of 540 = 27 (D) · 20% of 50 = 10 (S) · 5% of 20 = 1 (A) · 10% of 140 = 14 (C) · 10% of 190 = 19 (E) · 40% of 70 = 28 (K) · 10% of 360 = 36 (B) · 50% of 34 = 17 (P) · 25% of 172 = 43 (H) · 5% of 600 = 30 (G)

Clue 2 (Multi-step word problems): "RIGHT HANDED"

Ranger Leo collected 40 jungle maps in the morning and 14 jungle maps in the afternoon, then split them equally among 3 Junior Pathfinders. How many jungle maps did each get? = 18 (R) · Ranger Leo earned 6 trail markers in each of 6 rounds, plus 55 bonus trail markers. Then 12 trail markers were lost. How many trail markers are left? = 79 (N) · Ranger Leo filled 4 boxes with 6 canteen cups each, then found 12 more canteen cups. How many canteen cups are there in all? = 36 (G) · There were 181 compasses in all. 29 compasses were set aside. The rest were shared equally among 2 Junior Pathfinders. How many compasses did each get? = 76 (T) · Ranger Leo earned 2 compasses in each of 6 rounds, plus 16 bonus compasses. Then 8 compasses were lost. How many compasses are left? = 20 (H) · Ranger Leo earned 6 compasses in each of 2 rounds, plus 81 bonus compasses. Then 7 compasses were lost. How many compasses are left? = 86 (I) · Ranger Leo filled 4 boxes with 6 canteen cups each, then found 9 more canteen cups. How many canteen cups are there in all? = 33 (A)

Clue 3 (Exponents): "LOUD NOISES WILL SCARE THIS VILLAIN"

$5^3 = 125$ (L) · $17^2 = 289$ (O) · $20^2 = 400$ (E) · $18^2 = 324$ (S) · $5^2 = 25$ (C) · $4^2 = 16$ (N) · $14^2 = 196$ (A) · $2^5 = 32$ (T) · $2^2 = 4$ (D) · $3^2 = 9$ (W) · $3^4 = 81$ (R) · $6^3 = 216$ (U) · $7^2 = 49$ (I) · $11^2 = 121$ (V) · $3^5 = 243$ (H)

Clue 4 (Order of operations): "A BRIGHT GREEN CAP FIBER WAS LEFT"

$10 \times 8 - 19 = 61$ (A) · $26 + 8 \times 5 = 66$ (N) · $29 + 2 \times 6 = 41$ (R) · $1 + 5 \times 2 = 11$ (G) · $7 \times 10 - 11 = 59$ (W) · $9 \times 7 - 7 = 56$ (C) · $5 \times 8 - 15 = 25$ (T) · $24 + 5 \times 6 = 54$ (S) · $10 + 6 \times 2 = 22$ (H) · $11 \times 7 - 26 = 51$ (P) · $7 \times 11 - 4 = 73$ (B) · $7 + 5 \times 5 = 32$ (L) · $1 + 3 \times 3 = 10$ (F) · $10 \times 5 - 14 = 36$ (I) · $7 + 3 \times 7 = 28$ (E)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Hudson

$28 \div 4 = 7$ · $10 \div 2 = 5$ · $99 \div 9 = 11$ · $12 \div 2 = 6$ · $72 \div 8 = 9$ · $4 \div 1 = 4$ · $72 \div 9 = 8$ · $22 \div 11 = 2$ · $8 \div 8 = 1$ · $36 \div 3 = 12$ · $50 \div 5 = 10$