The Mystery of the Golden Compass

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ **Date:** _____

Someone snuck into the base camp at the Sunken Temple of Oakhaven and swiped the ancient Golden Compass! The clues left behind will help us figure out which rogue explorer did it.

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 Bandit is _____

Possible suspects

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

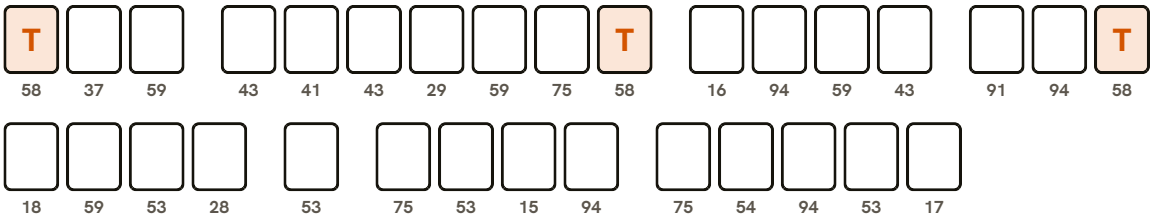
NAME	ADVENTURE TOOL	DISGUISE GEAR	WATCH WRIST	CAP COLOR	DISTRACTION ITEM
Zane Archer	Pocket Spyglass	Oilskin Coat	Right Wrist Watch	Brown Cap	Trail Snack
Uriah Vance	Pocket Spyglass	Canvas Vest	Right Wrist Watch	Red Cap	Shiny Coin
Violet Hall	Grappling Hook	Oilskin Coat	Left Wrist Watch	Brown Cap	Trail Snack
Pip Harrison	Pocket Spyglass	Canvas Vest	Left Wrist Watch	Red Cap	Trail Snack
Ivy Stone	Brass Lantern	Canvas Vest	Left Wrist Watch	Red Cap	Squeaky Toy
Cora Finch	Rope Ladder	Safari Jacket	Left Wrist Watch	Brown Cap	Shiny Coin
Jasper Vale	Rope Ladder	Oilskin Coat	Right Wrist Watch	Brown Cap	Squeaky Toy
Quinn Baxter	Brass Lantern	Safari Jacket	Left Wrist Watch	Brown Cap	Squeaky Toy
Baron Flint	Brass Lantern	Oilskin Coat	Right Wrist Watch	Red Cap	Trail Snack
Opal Ridge	Brass Lantern	Leather Poncho	Right Wrist Watch	Green Cap	Trail Snack
Leo Thorne	Pocket Spyglass	Leather Poncho	Right Wrist Watch	Brown Cap	Squeaky Toy
Maya Woods	Grappling Hook	Leather Poncho	Right Wrist Watch	Brown Cap	Squeaky Toy
Gwen Sterling	Rope Ladder	Oilskin Coat	Right Wrist Watch	Green Cap	Trail Snack
Ruby Marsh	Brass Lantern	Safari Jacket	Right Wrist Watch	Red Cap	Squeaky Toy
Kira Frost	Machete Tool	Canvas Vest	Left Wrist Watch	Red Cap	Squeaky Toy
Amelia Vance	Grappling Hook	Camo Cloak	Right Wrist Watch	Brown Cap	Squeaky Toy
Felix Drake	Grappling Hook	Camo Cloak	Left Wrist Watch	Brown Cap	Trail Snack
Nico Reed	Brass Lantern	Oilskin Coat	Right Wrist Watch	Red Cap	Squeaky Toy
Elena Cruz	Pocket Spyglass	Oilskin Coat	Right Wrist Watch	Red Cap	Squeaky Toy
Wyatt Cole	Grappling Hook	Safari Jacket	Right Wrist Watch	Brown Cap	Squeaky Toy
Sammy Brooks	Grappling Hook	Oilskin Coat	Left Wrist Watch	Red Cap	Trail Snack

make your own at mathcrackers.com

CLUE 1 Place value

> The archaeologist checked the dial on the temple vault door reading the digit positions to crack the first lock code.

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



What number has 5 tens and 8 ones? ☐ → T

What number has 1 ten and 6 ones? ☐ → D

What number has 9 tens and 4 ones? ☐ → O

What number has 2 tens and 8 ones? ☐ → R

What number has 5 tens and 3 ones? ☐ → A

What number has 5 tens and 9 ones? ☐ → E

What number has 4 tens and 3 ones? ☐ → S

What number has 3 tens and 7 ones? ☐ → H

What number has 1 ten and 8 ones? ☐ → W

What number has 9 tens and 1 one? ☐ → N

What number has 4 tens and 1 one? ☐ → U

What number has 1 ten and 7 ones? ☐ → K

What number has 7 tens and 5 ones? ☐ → C

What number has 2 tens and 9 ones? ☐ → P

What number has 5 tens and 4 ones? ☐ → L

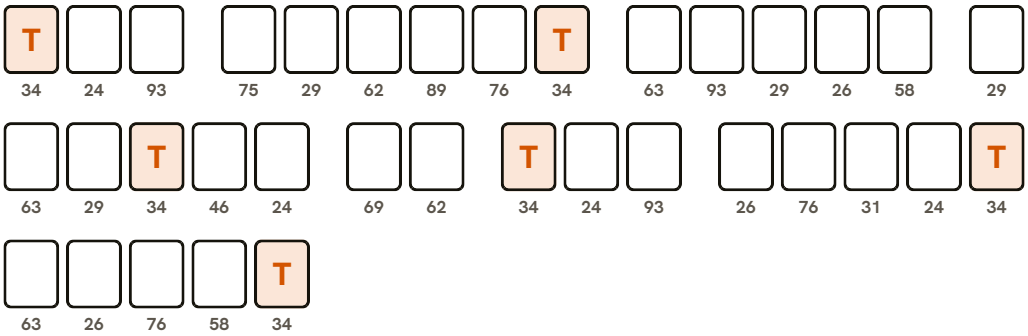
What number has 1 ten and 5 ones? ☐ → M

Scratch space:

CLUE 2 Addition

> The team tallied up the total number of footprints left in the mud outside the camp to figure out how many steps the thief took.

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



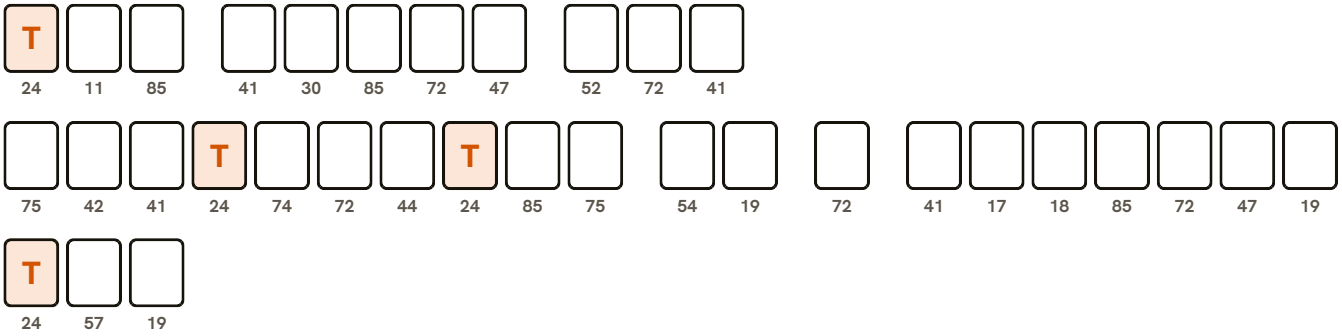
17 + 17 = ☐ → T	38 + 20 = ☐ → S	52 + 37 = ☐ → D
31 + 44 = ☐ → B	21 + 10 = ☐ → G	15 + 11 = ☐ → R
24 + 39 = ☐ → W	15 + 31 = ☐ → C	16 + 13 = ☐ → A
63 + 30 = ☐ → E	10 + 14 = ☐ → H	30 + 32 = ☐ → N
49 + 27 = ☐ → I	24 + 45 = ☐ → O	

Scratch space:

CLUE 3 Subtraction

Comparing the leftover gear crates to the original count reveals how many supplies were carried away.

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



29 - 5 = ☐ → T

78 - 3 = ☐ → D

53 - 35 = ☐ → U

91 - 34 = ☐ → O

83 - 31 = ☐ → W

68 - 14 = ☐ → B

82 - 35 = ☐ → K

81 - 9 = ☐ → A

29 - 12 = ☐ → Q

96 - 11 = ☐ → E

55 - 11 = ☐ → C

24 - 13 = ☐ → H

72 - 31 = ☐ → S

56 - 37 = ☐ → Y

49 - 7 = ☐ → I

101 - 27 = ☐ → R

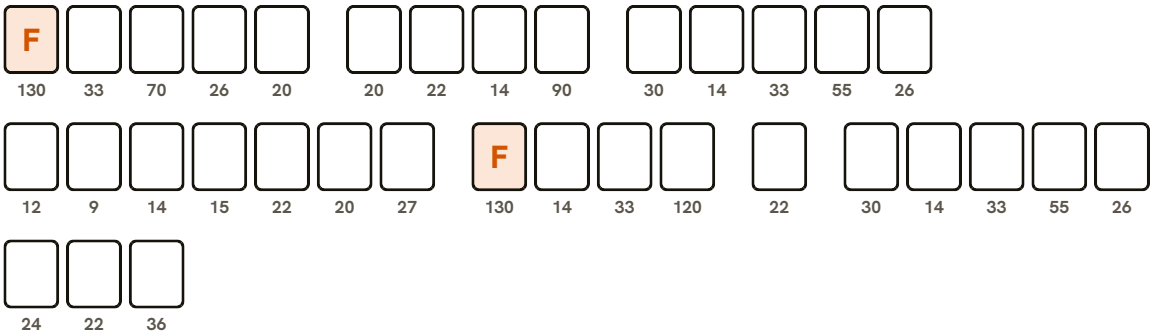
66 - 36 = ☐ → N

Scratch space:

CLUE 4 Skip counting

> The detective followed stepping stones across the river counting by equal jumps to reach the hidden cave entrance.

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



Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 ☐ → **F**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, ___, 33, 36 ☐ → **B**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, ___, 75, 80 ☐ → **U**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, ___, 18, 21 ☐ → **E**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 ☐ → **K**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, ___, 27, 30 ☐ → **C**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, ___, 28, 30 ☐ → **N**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 ☐ → **W**

Skip-count by 3s. Fill the blank: 3, 6, ___, 12, 15 ☐ → **H**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, ___, 14, 16 ☐ → **T**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, ___, 130, 140 ☐ → **M**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, ___, 30, 33 ☐ → S

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 ☐ → R

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 ☐ → A

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 ☐ → P

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, ___, 22, 24 ☐ → D

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ___, 36, 39 ☐ → O

Scratch space:

CLUE 5 Missing addends - the last clue

> To open the secret stone wall the team must find the missing weight needed to balance the ancient pressure scale.

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:

4 + ___ = 15 ☐	1 + ___ = 2 ☐	5 + ___ = 11 ☐	10 + ___ = 13 ☐
5 + ___ = 10 ☐	3 + ___ = 12 ☐	3 + ___ = 11 ☐	3 + ___ = 10 ☐
2 + ___ = 4 ☐	1 + ___ = 5 ☐	2 + ___ = 14 ☐	

Step 2 - cross out the sentence with each answer:

1. The villain used a grappling hook, then zipped up a leather poncho.
2. The villain peered through a pocket spyglass, then wrapped up in a camo cloak.
3. The villain cleared vines with a machete tool, then wrapped up in a camo cloak.
4. The villain peered through a pocket spyglass, then buttoned a canvas vest.
5. The villain peered through a pocket spyglass, then adjusted a safari jacket.
6. The villain peered through a pocket spyglass, then zipped up a leather poncho.
7. The villain lit a brass lantern, then buttoned a canvas vest.
8. The villain peered through a pocket spyglass, then buttoned an oilskin coat.
9. The villain lit a brass lantern, then wrapped up in a camo cloak.
10. The villain used a grappling hook, then adjusted a safari jacket.
11. The villain unrolled a rope ladder, then buttoned an oilskin coat.
12. The villain lit a brass lantern, then zipped up a leather poncho.

TEACHER / PARENT

Answer Key

The Mystery of the Golden Compass

Culprit: Wyatt Cole

Grappling Hook · Safari Jacket · Right Wrist Watch · Brown Cap · Squeaky Toy

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SUSPECT DOES NOT WEAR A CAMO CLOAK"

What number has 5 tens and 8 ones? = 58 (T) · What number has 1 ten and 6 ones? = 16 (D) · What number has 9 tens and 4 ones? = 94 (O) · What number has 2 tens and 8 ones? = 28 (R) · What number has 5 tens and 3 ones? = 53 (A) · What number has 5 tens and 9 ones? = 59 (E) · What number has 4 tens and 3 ones? = 43 (S) · What number has 3 tens and 7 ones? = 37 (H) · What number has 1 ten and 8 ones? = 18 (W) · What number has 9 tens and 1 one? = 91 (N) · What number has 4 tens and 1 one? = 41 (U) · What number has 1 ten and 7 ones? = 17 (K) · What number has 7 tens and 5 ones? = 75 (C) · What number has 2 tens and 9 ones? = 29 (P) · What number has 5 tens and 4 ones? = 54 (L) · What number has 1 ten and 5 ones? = 15 (M)

Clue 2 (Addition): "THE BANDIT WEARS A WATCH ON THE RIGHT WRIST"

17 + 17 = 34 (T) · 38 + 20 = 58 (S) · 52 + 37 = 89 (D) · 31 + 44 = 75 (B) · 21 + 10 = 31 (G) · 15 + 11 = 26 (R) · 24 + 39 = 63 (W) · 15 + 31 = 46 (C) · 16 + 13 = 29 (A) · 63 + 30 = 93 (E) · 10 + 14 = 24 (H) · 30 + 32 = 62 (N) · 49 + 27 = 76 (I) · 24 + 45 = 69 (O)

Clue 3 (Subtraction): "THE SNEAK WAS DISTRACTED BY A SQUEAKY TOY"

29 - 5 = 24 (T) · 78 - 3 = 75 (D) · 53 - 35 = 18 (U) · 91 - 34 = 57 (O) · 83 - 31 = 52 (W) · 68 - 14 = 54 (B) · 82 - 35 = 47 (K) · 81 - 9 = 72 (A) · 29 - 12 = 17 (Q) · 96 - 11 = 85 (E) · 55 - 11 = 44 (C) · 24 - 13 = 11 (H) · 72 - 31 = 41 (S) · 56 - 37 = 19 (Y) · 49 - 7 = 42 (I) · 101 - 27 = 74 (R) · 66 - 36 = 30 (N)

Clue 4 (Skip counting): "FOUND DARK BROWN THREADS FROM A BROWN CAP"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 = 130 (F) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, ___, 33, 36 = 30 (B) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, ___, 75, 80 = 70 (U) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, ___, 18, 21 = 15 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 = 90 (K) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, ___, 27, 30 = 24 (C) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, ___, 28, 30 = 26 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 = 55 (W) · Skip-count by 3s. Fill the blank: 3, 6, ___, 12, 15 = 9 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, ___, 14, 16 = 12 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, ___, 130, 140 = 120 (M) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, ___, 30, 33 = 27 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, ___, 16, 18 = 14 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 = 22 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ___, 39, 42 = 36 (P) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, ___, 22, 24 = 20 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ___, 36, 39 = 33 (O)

Clue 5 (Missing addends): surviving statement is box 10 → Wyatt Cole

4 + ___ = 15 = 11 · 1 + ___ = 2 = 1 · 5 + ___ = 11 = 6 · 10 + ___ = 13 = 3 · 5 + ___ = 10 = 5 · 3 + ___ = 12 = 9 · 3 + ___ = 11 = 8 · 3 + ___ = 10 = 7 · 2 + ___ = 4 = 2 · 1 + ___ = 5 = 4 · 2 + ___ = 14 = 12