



The Case of the Missing Golden Compass

Grade 1 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 1-2

Detective: _____ Date: _____

Oh no! Someone took the golden compass from the treehouse. We need to find the sneaky rival agent who took it! Look for clues in the yard.

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 sneaky rival agent is _____

Possible suspects

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

NAME	SPY GEAR	SPECIAL SKILL	WRITING HAND	HAIR COLOR	AGENT WEAKNESS
Agent Kim	Night Goggles	Fast Run	Right Handed	Yellow Hair	Scared of Bugs
Agent Ben	Spy Camera	Water Splash	Right Handed	Red Hair	Scared of Bugs
Agent Dan	Night Goggles	Super Jump	Right Handed	Brown Hair	Loves Cookie Crumbs
Agent Hal	Night Goggles	Quiet Climb	Right Handed	Red Hair	Loves Cookie Crumbs
Agent Rex	Invisible Ink	Water Splash	Right Handed	Red Hair	Loves Cookie Crumbs
Agent Bob	Laser Pointer	Fast Run	Left Handed	Red Hair	Loves Cookie Crumbs
Agent Fay	Night Goggles	Fast Run	Right Handed	Brown Hair	Loves Cookie Crumbs
Agent Ted	Spy Camera	Water Splash	Right Handed	Red Hair	Loves Cookie Crumbs
Agent Max	Walkie Talkie	Fast Run	Left Handed	Brown Hair	Dislikes Loud Noises
Agent Amy	Invisible Ink	Water Splash	Left Handed	Brown Hair	Dislikes Loud Noises
Agent Liz	Laser Pointer	Water Splash	Left Handed	Brown Hair	Dislikes Loud Noises
Agent Pip	Spy Camera	Super Jump	Left Handed	Yellow Hair	Loves Cookie Crumbs
Agent Jan	Laser Pointer	Fast Run	Left Handed	Yellow Hair	Loves Cookie Crumbs
Agent Roy	Night Goggles	Super Jump	Left Handed	Red Hair	Dislikes Loud Noises
Agent Leo	Laser Pointer	Super Jump	Left Handed	Red Hair	Dislikes Loud Noises
Agent Joy	Walkie Talkie	Super Jump	Right Handed	Red Hair	Loves Cookie Crumbs
Agent Zoe	Night Goggles	Sneak Walk	Right Handed	Brown Hair	Loves Cookie Crumbs
Agent Mia	Invisible Ink	Sneak Walk	Left Handed	Yellow Hair	Scared of Bugs
Agent Ned	Laser Pointer	Quiet Climb	Left Handed	Brown Hair	Scared of Bugs
Agent Sue	Night Goggles	Water Splash	Right Handed	Red Hair	Loves Cookie Crumbs
Agent Gus	Laser Pointer	Fast Run	Right Handed	Brown Hair	Dislikes Loud Noises

CLUE 1 Place value

We found a locked spy box. The code uses tens and ones to show a secret number.

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

T								T									
13	67	90	81	56	90	16	13	50	43	50	16	62	13	28	36	90	

				T					
65	28	43	90	13	61	92	43	22	64

What number has 1 ten and 3 ones? → **T**

What number has 6 tens and 1 one? → **C**

What number has 2 tens and 8 ones? → **U**

What number has 9 tens and 0 ones? → **E**

What number has 4 tens and 3 ones? → **I**

What number has 6 tens and 4 ones? → **B**

What number has 1 ten and 6 ones? → **N**

What number has 5 tens and 0 ones? → **D**

What number has 2 tens and 2 ones? → **M**

What number has 5 tens and 6 ones? → **G**

What number has 3 tens and 6 ones? → **S**

What number has 8 tens and 1 one? → **A**

What number has 6 tens and 5 ones? → **Q**

What number has 6 tens and 7 ones? → **H**

What number has 6 tens and 2 ones? → **O**

What number has 9 tens and 2 ones? → **L**

Scratch space:

CLUE 2

Addition

Let us count the spy gear. We need to add the gadgets in both green bags.

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

T							T		T						T	
2	13	9	11	20	14	3	2	9	2	13	9	19	3	2	9	
		T		T							T					
20	8	2	13	2	13	9	14	8	18	13	2	13	6	19	4	

$1 + 1 = \square \rightarrow \boxed{\text{T}}$

$6 + 8 = \square \rightarrow \boxed{\text{R}}$

$2 + 6 = \square \rightarrow \boxed{\text{I}}$

$6 + 7 = \square \rightarrow \boxed{\text{H}}$

$1 + 2 = \square \rightarrow \boxed{\text{O}}$

$12 + 6 = \square \rightarrow \boxed{\text{G}}$

$7 + 4 = \square \rightarrow \boxed{\text{Y}}$

$1 + 5 = \square \rightarrow \boxed{\text{A}}$

$7 + 12 = \square \rightarrow \boxed{\text{N}}$

$7 + 2 = \square \rightarrow \boxed{\text{E}}$

$14 + 6 = \square \rightarrow \boxed{\text{W}}$

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

Scratch space:

CLUE 3

The sprinkler washed some clues away. Let us subtract to see how many are left.

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

The diagram illustrates a sequence of boxes with numbers and the letter 'T'. The boxes are arranged in two rows. The top row consists of two groups of boxes. The first group has boxes with numbers 5, 11, 19, 2, 3, 19, 4, 6, 12. The second group has boxes with numbers 4, 7, 19, 3, 5. The bottom row also consists of two groups of boxes. The first group has boxes with numbers 2, 5, 18, 9, 9, 19, 15. The second group has boxes with numbers 5, 18, 19, 4, 5, 1, 18, 18, 6, 10, 19, 2. In all groups, the box containing the letter 'T' is highlighted in orange.

$14 - 9 = \boxed{} \rightarrow \boxed{\text{T}}$

$$19 - 1 = \boxed{} \rightarrow \boxed{0}$$

19 - 7 = → **Y**

$13 - 2 = \boxed{} \rightarrow \boxed{\text{H}}$

$9 - 6 = \boxed{} \rightarrow \boxed{\text{N}}$

$$6 - 4 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$20 - 1 = \boxed{} \rightarrow \boxed{\text{E}}$$

13 - 4 = → **P**

$19 - 4 = \boxed{} \rightarrow \boxed{\text{D}}$

$6 - 5 = \square \rightarrow \boxed{\text{C}}$

10 - 4 = → **K**

$7 - 3 = \square \rightarrow \boxed{\mathbf{A}}$

$12 - 2 = \square \rightarrow \boxed{1}$

$8 - 1 = \square \rightarrow \boxed{\mathbf{G}}$

Scratch space:

CLUE 4

Skip counting

Follow the footsteps on the path. They skip by twos all the way to the gate.

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

W																		
100	130	30	9	42	27	120	45	140	21	16	45	27	120	9	30	16	130	120

35	45	110	16

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **W**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 → **H**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **S**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **R**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **T**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **A**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **N**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 → **F**

Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 → **O**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **U**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 → **I**

Scratch space:

CLUE 5**Missing addends - the last clue**

We need eight badges for our map. We only have five. How many more do we need

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:

$4 + \underline{\quad} = 10$

$5 + \underline{\quad} = 7$

$3 + \underline{\quad} = 4$

$4 + \underline{\quad} = 7$

$3 + \underline{\quad} = 8$

$9 + \underline{\quad} = 13$

$10 + \underline{\quad} = 22$

$4 + \underline{\quad} = 12$

$5 + \underline{\quad} = 14$

$6 + \underline{\quad} = 13$

$6 + \underline{\quad} = 16$

Step 2 - cross out the sentence with each answer:

1. The villain snapped a photo with a spy camera, then made a big water splash in the pool.
2. The villain whispered into a walkie talkie, then did a super jump over the hedge.
3. The villain shined a bright laser pointer, then made a fast run across the lawn.
4. The villain whispered into a walkie talkie, then did a sneak walk past the dog.
5. The villain wrote a note in invisible ink, then made a quiet climb up the ladder.
6. The villain wrote a note in invisible ink, then made a big water splash in the pool.
7. The villain turned on the night goggles, then made a fast run across the lawn.
8. The villain shined a bright laser pointer, then did a sneak walk past the dog.
9. The villain whispered into a walkie talkie, then made a fast run across the lawn.
10. The villain turned on the night goggles, then made a quiet climb up the ladder.
11. The villain turned on the night goggles, then made a big water splash in the pool.
12. The villain turned on the night goggles, then did a super jump over the hedge.

Answer Key

The Case of the Missing Golden Compass

Culprit: Agent Sue

Night Goggles · Water Splash · Right Handed · Red Hair · Loves Cookie Crumbs

Trail: Start 21 → Clue 1 19 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE AGENT DID NOT USE QUIET CLIMB"

What number has 1 ten and 3 ones? = 13 (T) · What number has 6 tens and 1 one? = 61 (C) · What number has 2 tens and 8 ones? = 28 (U) · What number has 9 tens and 0 ones? = 90 (E) · What number has 4 tens and 3 ones? = 43 (I) · What number has 6 tens and 4 ones? = 64 (B) · What number has 1 ten and 6 ones? = 16 (N) · What number has 5 tens and 0 ones? = 50 (D) · What number has 2 tens and 2 ones? = 22 (M) · What number has 5 tens and 6 ones? = 56 (G) · What number has 3 tens and 6 ones? = 36 (S) · What number has 8 tens and 1 one? = 81 (A) · What number has 6 tens and 5 ones? = 65 (Q) · What number has 6 tens and 7 ones? = 67 (H) · What number has 6 tens and 2 ones? = 62 (O) · What number has 9 tens and 2 ones? = 92 (L)

Clue 2 (Addition): "THEY WROTE THE NOTE WITH THE RIGHT HAND"

$1 + 1 = 2$ (T) · $6 + 8 = 14$ (R) · $2 + 6 = 8$ (I) · $6 + 7 = 13$ (H) · $1 + 2 = 3$ (O) · $12 + 6 = 18$ (G) · $7 + 4 = 11$ (Y) · $1 + 5 = 6$ (A) · $7 + 12 = 19$ (N) · $7 + 2 = 9$ (E) · $14 + 6 = 20$ (W) · $1 + 3 = 4$ (D)

Clue 3 (Subtraction): "THE SNEAKY AGENT STOPPED TO EAT COOKIES"

$14 - 9 = 5$ (T) · $19 - 1 = 18$ (O) · $19 - 7 = 12$ (Y) · $13 - 2 = 11$ (H) · $9 - 6 = 3$ (N) · $6 - 4 = 2$ (S) · $20 - 1 = 19$ (E) · $13 - 4 = 9$ (P) · $19 - 4 = 15$ (D) · $6 - 5 = 1$ (C) · $10 - 4 = 6$ (K) · $7 - 3 = 4$ (A) · $12 - 2 = 10$ (I) · $8 - 1 = 7$ (G)

Clue 4 (Skip counting): "WE FOUND A STRAND OF RED HAIR"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 = 35 (H) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (R) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (T) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, __, 35, 40 = 30 (F) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (E) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (U) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 = 120 (D) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (I)

Clue 5 (Missing addends): surviving statement is box 11 → Agent Sue

$4 + \underline{\quad} = 10 = 6$ · $5 + \underline{\quad} = 7 = 2$ · $3 + \underline{\quad} = 4 = 1$ · $4 + \underline{\quad} = 7 = 3$ · $3 + \underline{\quad} = 8 = 5$ · $9 + \underline{\quad} = 13 = 4$ · $10 + \underline{\quad} = 22 = 12$ · $4 + \underline{\quad} = 12 = 8$ · $5 + \underline{\quad} = 14 = 9$ · $6 + \underline{\quad} = 13 = 7$ · $6 + \underline{\quad} = 16 = 10$