



The Mystery of the Missing Golden Knight

Grade 4 math · Multiplication, Rounding, Addition, Subtraction, Division · Reading level grades 3-4

Detective: _____ Date: _____

Someone swapped the famous Golden Knight trophy with a plastic fake right before the finals! Detective, review the clues to unmask 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 Grandmaster Rogue is _____

Possible suspects

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

NAME	OPENING MOVE	ENDGAME STRATEGY	WATCH HAND	CAP COLOR	DISTRACTION
Alireza Firouzja	Bishop Pin	Passed Pawn	Left Handed	White Cap	Loud Snacking
Ding Liren	Bishop Pin	Pawn Promotion	Left Handed	Black Cap	Flash Camera
Irina Krush	Sicilian Defense	Pawn Promotion	Left Handed	Red Cap	Board Flip
Daniel Naroditsky	Sicilian Defense	Zugzwang Trap	Right Handed	White Cap	Loud Snacking
Maxime Vachier	Rook Lift	Zugzwang Trap	Right Handed	Red Cap	Loud Snacking
Susan Polgar	Queen Gambit	King Safety	Left Handed	White Cap	Loud Snacking
Anish Giri	Sicilian Defense	King Safety	Left Handed	Red Cap	Board Flip
Anna Muzychuk	Bishop Pin	King Safety	Right Handed	White Cap	Board Flip
Garry Kasparov	Rook Lift	Pawn Promotion	Left Handed	White Cap	Loud Snacking
Vishy Anand	Queen Gambit	King Safety	Left Handed	White Cap	Flash Camera
Fabiano Caruana	Queen Gambit	Passed Pawn	Right Handed	Red Cap	Board Flip
Alexandra Botez	Queen Gambit	Pawn Promotion	Left Handed	Black Cap	Loud Snacking
Eric Hansen	Rook Lift	Pawn Promotion	Left Handed	Black Cap	Loud Snacking
Jennifer Shahade	Rook Lift	Pawn Promotion	Left Handed	Black Cap	Board Flip
Jan Nepomniachtchi	Queen Gambit	Smothered Mate	Left Handed	White Cap	Loud Snacking
Levon Aronian	Rook Lift	Zugzwang Trap	Right Handed	Red Cap	Board Flip
Praggnanandhaa	Queen Gambit	Passed Pawn	Left Handed	Black Cap	Flash Camera
Magnus Carlsen	Sicilian Defense	Zugzwang Trap	Right Handed	White Cap	Board Flip
Gukesh D	Queen Gambit	Zugzwang Trap	Left Handed	White Cap	Loud Snacking
Hou Yifan	Knight Fork	Pawn Promotion	Left Handed	White Cap	Flash Camera
Wesley So	Sicilian Defense	Zugzwang Trap	Left Handed	White Cap	Flash Camera

Multiplication facts (1-12)

The arbiter counted chess boards set up in identical square rows across the hall.

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

[illegible]

$2 \times 7 = \square \rightarrow \boxed{\mathbf{T}}$

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

$8 \times 8 = \boxed{} \rightarrow \boxed{\text{C}}$

$$11 \times 11 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$1 \times 10 = \boxed{} \rightarrow \boxed{0}$$

$$6 \times 6 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$7 \times 6 = \boxed{} \rightarrow \boxed{\text{N}}$$

$3 \times 9 = \square \rightarrow \boxed{\text{H}}$

$7 \times 10 = \square \rightarrow \boxed{\mathbf{M}}$

$11 \times 2 = \square \rightarrow \boxed{\mathbf{U}}$

$$7 \times 1 = \boxed{} \rightarrow \boxed{1}$$

$8 \times 9 = \boxed{} \rightarrow \boxed{\text{K}}$

$10 \times 11 = \boxed{} \rightarrow \boxed{\text{P}}$

$3 \times 10 = \boxed{} \rightarrow \boxed{\mathbf{D}}$

$1 \times 1 = \boxed{} \rightarrow \mathbf{A}$

$12 \times 12 = \boxed{} \rightarrow \boxed{\mathbf{S}}$

$9 \times 5 = \boxed{} \rightarrow \boxed{\text{Y}}$

Scratch space:

CLUE 2 Rounding

The digital tournament clock only displays time rounded to the nearest ten seconds.

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

W									W										
20	30	90	130	9000	1100	1100	1100	2300	20	7000	9000	1300	90	290	2300	130	700	9000	700
3700	7000	2300	370	70	130	90	290	9000	300	70	2300	4300	700						

Round 23 to the nearest ten → **W**

Round 291 to the nearest ten → **H**

Round 9,172 to the nearest thousand → **E**

Round 1,274 to the nearest hundred → **F**

Round 30 to the nearest ten → **I**

Round 6,590 to the nearest thousand → **L**

Round 88 to the nearest ten → **T**

Round 4,261 to the nearest hundred → **R**

Round 1,059 to the nearest hundred → **S**

Round 132 to the nearest ten → **N**

Round 2,295 to the nearest hundred → **A**

Round 251 to the nearest hundred → **B**

Round 746 to the nearest hundred → **D**

Round 74 to the nearest ten → **O**

Round 370 to the nearest ten → **Y**

Round 3,712 to the nearest hundred → **P**

Scratch space:

CLUE 3
Addition

We tallied up all the stolen pawn pieces found in two hidden bags.

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

T																	
5938	9684	6989	5578	7257	5061	5061	6001	7257	2946	3007	6001	2946	7257	2716	5758	6989	9081

4853	2057	6093	5431	5061	6093	5572	9081	9568	2946	6001	2716	5758	7257	2946	4275

$2823 + 3115 = \square \rightarrow \text{ T }$

$684 + 1373 = \square \rightarrow \text{ R }$

$2459 + 2602 = \square \rightarrow \text{ L }$

$4289 + 2968 = \square \rightarrow \text{ I }$

$3451 + 2121 = \square \rightarrow \text{ U }$

$2124 + 3454 = \square \rightarrow \text{ V }$

$4263 + 4818 = \square \rightarrow \text{ D }$

$3735 + 2358 = \square \rightarrow \text{ O }$

$933 + 2074 = \square \rightarrow \text{ P }$

$2108 + 2167 = \square \rightarrow \text{ G }$

$2859 + 1994 = \square \rightarrow \text{ F }$

$3595 + 2163 = \square \rightarrow \text{ K }$

$4929 + 4755 = \square \rightarrow \text{ H }$

$1145 + 1571 = \square \rightarrow \text{ C }$

$2146 + 4843 = \square \rightarrow \text{ E }$

$2734 + 2697 = \square \rightarrow \text{ M }$

$6036 + 3532 = \square \rightarrow \text{ S }$

$1345 + 1601 = \square \rightarrow \text{ N }$

$3088 + 2913 = \square \rightarrow \text{ A }$

Scratch space:

CLUE 4

Subtraction

We compared the total score points before and after the stolen knight went missing.

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

T																	
4958	7686	5856	5584	2179	5856	3364	1625	4367	5374	2860	6932	6932	5856	4367	3364		
			T							T							
4933	7686	5237	4958	5856	5564	3364	6932	2860	2179	4958	7686	5856	5564	7686	3364	5237	5374

$8582 - 3624 = \square \rightarrow \boxed{\text{T}}$

$6543 - 979 = \square \rightarrow \boxed{\text{C}}$

$8067 - 3134 = \square \rightarrow \boxed{\text{W}}$

$9149 - 1463 = \square \rightarrow \boxed{\text{H}}$

$3874 - 1014 = \square \rightarrow \boxed{\text{O}}$

$9261 - 3887 = \square \rightarrow \boxed{\text{R}}$

$1889 - 264 = \square \rightarrow \boxed{\text{K}}$

$8807 - 2951 = \square \rightarrow \boxed{\text{E}}$

$9022 - 2090 = \square \rightarrow \boxed{\text{P}}$

$6119 - 535 = \square \rightarrow \boxed{\text{S}}$

$7154 - 2787 = \square \rightarrow \boxed{\text{D}}$

$4417 - 1053 = \square \rightarrow \boxed{\text{A}}$

$4199 - 2020 = \square \rightarrow \boxed{\text{N}}$

$9232 - 3995 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

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

The referee split the remaining tournament chess sets equally among the tables.

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:

$49 \div 7 = \boxed{}$

$8 \div 2 = \boxed{}$

$33 \div 11 = \boxed{}$

$24 \div 4 = \boxed{}$

$24 \div 12 = \boxed{}$

$99 \div 9 = \boxed{}$

$88 \div 11 = \boxed{}$

$50 \div 5 = \boxed{}$

$55 \div 11 = \boxed{}$

$4 \div 4 = \boxed{}$

$132 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain set up a bishop pin, then checked king safety.
2. The villain set up a bishop pin, then rushed a pawn promotion.
3. The villain opened with the queen gambit, then created a zugzwang trap.
4. The villain opened with the queen gambit, then checked king safety.
5. The villain played the sicilian defense, then trapped with a smothered mate.
6. The villain executed a knight fork, then trapped with a smothered mate.
7. The villain set up a bishop pin, then pushed a passed pawn.
8. The villain executed a knight fork, then rushed a pawn promotion.
9. The villain launched a rook lift, then rushed a pawn promotion.
10. The villain opened with the queen gambit, then pushed a passed pawn.
11. The villain played the sicilian defense, then pushed a passed pawn.
12. The villain set up a bishop pin, then created a zugzwang trap.

Answer Key

The Mystery of the Missing Golden Knight

Culprit: Garry Kasparov

Rook Lift · Pawn Promotion · Left Handed · White Cap · Loud Snacking

Trail: Start 21 → Clue 1 20 → Clue 2 14 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE SNEAKY CULPRIT DOES NOT USE SMOTHERED MATE"

$2 \times 7 = 14$ (T) · $7 \times 9 = 63$ (L) · $8 \times 8 = 64$ (C) · $11 \times 11 = 121$ (E) · $1 \times 10 = 10$ (O) · $6 \times 6 = 36$ (R) · $7 \times 6 = 42$ (N) · $3 \times 9 = 27$ (H) · $7 \times 10 = 70$ (M) · $11 \times 2 = 22$ (U) · $7 \times 1 = 7$ (I) · $8 \times 9 = 72$ (K) · $10 \times 11 = 110$ (P) · $3 \times 10 = 30$ (D) · $1 \times 1 = 1$ (A) · $12 \times 12 = 144$ (S) · $9 \times 5 = 45$ (Y)

Clue 2 (Rounding): "WITNESS SAW LEFT HANDED PLAY ON THE BOARD"

Round 23 to the nearest ten = 20 (W) · Round 291 to the nearest ten = 290 (H) · Round 9,172 to the nearest thousand = 9000 (E) · Round 1,274 to the nearest hundred = 1300 (F) · Round 30 to the nearest ten = 30 (I) · Round 6,590 to the nearest thousand = 7000 (L) · Round 88 to the nearest ten = 90 (T) · Round 4,261 to the nearest hundred = 4300 (R) · Round 1,059 to the nearest hundred = 1100 (S) · Round 132 to the nearest ten = 130 (N) · Round 2,295 to the nearest hundred = 2300 (A) · Round 251 to the nearest hundred = 300 (B) · Round 746 to the nearest hundred = 700 (D) · Round 74 to the nearest ten = 70 (O) · Round 370 to the nearest ten = 370 (Y) · Round 3,712 to the nearest hundred = 3700 (P)

Clue 3 (Addition): "THE VILLAIN PANICKED FROM LOUD SNACKING"

$2823 + 3115 = 5938$ (T) · $684 + 1373 = 2057$ (R) · $2459 + 2602 = 5061$ (L) · $4289 + 2968 = 7257$ (I) · $3451 + 2121 = 5572$ (U) · $2124 + 3454 = 5578$ (V) · $4263 + 4818 = 9081$ (D) · $3735 + 2358 = 6093$ (O) · $933 + 2074 = 3007$ (P) · $2108 + 2167 = 4275$ (G) · $2859 + 1994 = 4853$ (F) · $3595 + 2163 = 5758$ (K) · $4929 + 4755 = 9684$ (H) · $1145 + 1571 = 2716$ (C) · $2146 + 4843 = 6989$ (E) · $2734 + 2697 = 5431$ (M) · $6036 + 3532 = 9568$ (S) · $1345 + 1601 = 2946$ (N) · $3088 + 2913 = 6001$ (A)

Clue 4 (Subtraction): "THE SNEAK DROPPED A WHITE CAP ON THE CHAIR"

$8582 - 3624 = 4958$ (T) · $6543 - 979 = 5564$ (C) · $8067 - 3134 = 4933$ (W) · $9149 - 1463 = 7686$ (H) · $3874 - 1014 = 2860$ (O) · $9261 - 3887 = 5374$ (R) · $1889 - 264 = 1625$ (K) · $8807 - 2951 = 5856$ (E) · $9022 - 2090 = 6932$ (P) · $6119 - 535 = 5584$ (S) · $7154 - 2787 = 4367$ (D) · $4417 - 1053 = 3364$ (A) · $4199 - 2020 = 2179$ (N) · $9232 - 3995 = 5237$ (I)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Garry Kasparov

$49 \div 7 = 7$ · $8 \div 2 = 4$ · $33 \div 11 = 3$ · $24 \div 4 = 6$ · $24 \div 12 = 2$ · $99 \div 9 = 11$ · $88 \div 11 = 8$ · $50 \div 5 = 10$ · $55 \div 11 = 5$ · $4 \div 4 = 1$ · $132 \div 11 = 12$