



The Hogwarts Potion Heist

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

A rare batch of Felix Felicis has been stolen from the potions dungeon! Professor Snape is furious. A sneaky student or rogue wizard snuck in during dinner. Use your arithmancy skills to analyze the magical evidence and find the culprit before they drink the liquid luck!

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 wizard is _____

Possible suspects

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

NAME	SIGNATURE SPELL	MAGICAL ITEM	WAND HAND	HOUSE SCARF	HERBOLOGY ALLERGY
Dean Thomas	Lumos	Sneakoscope	Left-handed	Green Scarf	Gillyweed
Theodore Nott	Alohomora	Invisibility Cloak	Left-handed	Red Scarf	Mandrakes
Susan Bones	Lumos	Remembrall	Right-handed	Green Scarf	Gillyweed
Luna Lovegood	Stupefy	Sneakoscope	Right-handed	Red Scarf	Gillyweed
Cedric Diggory	Incendio	Marauders Map	Right-handed	Red Scarf	Devils Snare
Blaise Zabini	Expelliarmus	Invisibility Cloak	Right-handed	Green Scarf	Devils Snare
Hannah Abbott	Incendio	Invisibility Cloak	Right-handed	Green Scarf	Gillyweed
Cho Chang	Stupefy	Sneakoscope	Right-handed	Blue Scarf	Gillyweed
Justin FinchFletchley	Alohomora	Invisibility Cloak	Right-handed	Blue Scarf	Mandrakes
Percy Weasley	Lumos	Remembrall	Left-handed	Red Scarf	Mandrakes
Hermione Granger	Lumos	Invisibility Cloak	Left-handed	Red Scarf	Mandrakes
Oliver Wood	Stupefy	Golden Snitch	Left-handed	Red Scarf	Gillyweed
Ernie Macmillan	Incendio	Marauders Map	Left-handed	Green Scarf	Gillyweed
Ron Weasley	Lumos	Marauders Map	Left-handed	Red Scarf	Mandrakes
Neville Longbottom	Incendio	Golden Snitch	Left-handed	Red Scarf	Mandrakes
Harry Potter	Incendio	Sneakoscope	Left-handed	Green Scarf	Mandrakes
Padma Patil	Incendio	Sneakoscope	Left-handed	Red Scarf	Devils Snare
Fred Weasley	Alohomora	Remembrall	Right-handed	Red Scarf	Gillyweed
Draco Malfoy	Alohomora	Remembrall	Right-handed	Blue Scarf	Gillyweed
Lavender Brown	Lumos	Invisibility Cloak	Left-handed	Red Scarf	Devils Snare
George Weasley	Lumos	Sneakoscope	Right-handed	Red Scarf	Mandrakes

CLUE 1

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

A 2x10 grid of boxes. The top row contains the following numbers from left to right: 19, 7, 22, 38, 39, 4, 28, 26, 32, 19, 11, 23, 22, 35, 30, 23, 19. The bottom row contains the following numbers from left to right: 23, 31, 30, 5, 17, 23, 4, 11, 22, 30, 35, 30, 32, 19, 38, 7. In the top row, the boxes containing 19 and 19 are highlighted in orange and contain a red 'T'. In the bottom row, the box containing 19 is highlighted in orange and contains a red 'T'.

2/10 of 95 = → **T**

$1/8$ of 136 = → **G**

$3/6$ of $62 = \square \rightarrow \boxed{\mathbf{W}}$

$1/2$ of 44 = $\rightarrow$ **E**

$2/4$ of 64 = $\rightarrow$

$2/8$ of 156 = $\rightarrow$ **U**

2/10 of 55 = → **D**

$2/6$ of $15 = \square \rightarrow \boxed{\mathbf{A}}$

$\frac{1}{3}$ of 78 = $\rightarrow$ **R**

2/10 of 140 = → **P**

$\frac{1}{4}$ of 92 = $\rightarrow$ ☐

$\frac{1}{2}$ of 60 = $\rightarrow$ **N**

$\frac{1}{2}$ of 14 = $\rightarrow$ **H**

$\frac{1}{5}$ of 175 = $\rightarrow$ **S**

$\frac{2}{3}$ of 6 = $\rightarrow$ **L**

$2/8$ of 152 = $\rightarrow$ **C**

Scratch space:

CLUE 2

Order of operations

A messy chalkboard contains a multi-step spell formula. We must solve it in the correct order to reveal the secret lock combination.

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

T															
65	23	67	15	54	75	60	24	75	58	15	54	62			
									T						T
62	35	9	60	12	67	60	76	75	65	23	67	46	67	26	65
62	24	60	67												

$38 + 3 \times 9 = \square \rightarrow \text{T}$

$11 + 4 \times 6 = \square \rightarrow \text{M}$

$9 \times 8 - 14 = \square \rightarrow \text{K}$

$8 \times 6 - 2 = \square \rightarrow \text{L}$

$8 + 2 \times 2 = \square \rightarrow \text{G}$

$6 + 3 \times 3 = \square \rightarrow \text{W}$

$12 \times 7 - 22 = \square \rightarrow \text{S}$

$55 + 5 \times 4 = \square \rightarrow \text{N}$

$12 + 2 \times 7 = \square \rightarrow \text{F}$

$12 \times 3 - 13 = \square \rightarrow \text{H}$

$3 + 2 \times 3 = \square \rightarrow \text{U}$

$4 \times 7 - 4 = \square \rightarrow \text{I}$

$42 + 2 \times 9 = \square \rightarrow \text{D}$

$10 \times 10 - 24 = \square \rightarrow \text{O}$

$12 \times 7 - 17 = \square \rightarrow \text{E}$

$6 \times 11 - 12 = \square \rightarrow \text{A}$

Scratch space:

CLUE 3

Multiplication facts (1-12)

The thief stole several boxes of ingredients, each containing many rows of vials. We must multiply the rows to count the missing stash.

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

T																			
44	49	3	12	132	11	56	3	50	49	12	35	18	81	22	35	9	81		
6	12	132	54	9	12	36	32	18	11	54	35	18	21	12	35	81	3	50	

$4 \times 11 = \square \rightarrow \boxed{\text{T}}$

$7 \times 7 = \square \rightarrow \boxed{\text{H}}$

$3 \times 7 = \square \rightarrow \boxed{\text{D}}$

$6 \times 3 = \square \rightarrow \boxed{\text{N}}$

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

$3 \times 4 = \square \rightarrow \boxed{\text{R}}$

$9 \times 6 = \square \rightarrow \boxed{\text{M}}$

$11 \times 12 = \square \rightarrow \boxed{\text{O}}$

$3 \times 2 = \square \rightarrow \boxed{\text{F}}$

$11 \times 2 = \square \rightarrow \boxed{\text{B}}$

$8 \times 7 = \square \rightarrow \boxed{\text{U}}$

$1 \times 11 = \square \rightarrow \boxed{\text{G}}$

$5 \times 7 = \square \rightarrow \boxed{\text{A}}$

$1 \times 9 = \square \rightarrow \boxed{\text{C}}$

$4 \times 8 = \square \rightarrow \boxed{\text{I}}$

$9 \times 4 = \square \rightarrow \boxed{\text{Y}}$

$10 \times 5 = \square \rightarrow \boxed{\text{S}}$

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

Scratch space:

CLUE 4 Rounding

The magical scales in the lab only show weight rounded to the nearest ten. We must estimate the mass of the spilled powder.

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

T																	
20	3700	1700	7000	2000	130	70	500	2300	2000	1700	7000	130	70	90	2000	1700	2300

							T									
110	7000	1700	7000	50	7000	2300	20	3000	7000	3700	430	370	130			

Round 19 to the nearest ten → **T**

Round 46 to the nearest ten → **L**

Round 1,628 to the nearest thousand → **A**

Round 130 to the nearest ten → **D**

Round 369 to the nearest ten → **N**

Round 94 to the nearest ten → **C**

Round 3,163 to the nearest thousand → **B**

Round 457 to the nearest hundred → **O**

Round 428 to the nearest ten → **I**

Round 69 to the nearest ten → **S**

Round 3,739 to the nearest hundred → **H**

Round 2,333 to the nearest hundred → **F**

Round 109 to the nearest ten → **W**

Round 6,540 to the nearest thousand → **E**

Round 1,729 to the nearest hundred → **R**

Scratch space:

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

To share the counter-curse equally among the affected students, we must divide the healing potion drops into equal beakers.

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:

$64 \div 8 = \boxed{}$

$25 \div 5 = \boxed{}$

$10 \div 1 = \boxed{}$

$3 \div 3 = \boxed{}$

$18 \div 2 = \boxed{}$

$55 \div 5 = \boxed{}$

$28 \div 4 = \boxed{}$

$10 \div 5 = \boxed{}$

$60 \div 10 = \boxed{}$

$44 \div 11 = \boxed{}$

$84 \div 7 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain whispers alohomora to open the cabinet, then silences a spinning sneakoscope.
2. The villain whispers alohomora to open the cabinet, then chases a fluttering golden snitch.
3. The villain conjures lumos to light the dark shelf, then checks a dusty marauders map.
4. The villain casts expelliarmus to disarm the lock, then drops a glowing red remembrall.
5. The villain conjures lumos to light the dark shelf, then slips away under an invisibility cloak.
6. The villain sparks incendio to melt the seal, then silences a spinning sneakoscope.
7. The villain shoots a stupefy spell at the desk, then silences a spinning sneakoscope.
8. The villain whispers alohomora to open the cabinet, then slips away under an invisibility cloak.
9. The villain conjures lumos to light the dark shelf, then silences a spinning sneakoscope.
10. The villain conjures lumos to light the dark shelf, then drops a glowing red remembrall.
11. The villain sparks incendio to melt the seal, then chases a fluttering golden snitch.
12. The villain casts expelliarmus to disarm the lock, then silences a spinning sneakoscope.

Answer Key

The Hogwarts Potion Heist

Culprit: Ron Weasley

Lumos · Marauders Map · Left-handed · Red Scarf · Mandrakes

Trail: Start 21 → Clue 1 19 → Clue 2 9 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE CULPRIT DOES NOT OWN A GOLDEN SNITCH"

$2/10$ of 95 = 19 (T) · $1/8$ of 136 = 17 (G) · $3/6$ of 62 = 31 (W) · $1/2$ of 44 = 22 (E) · $2/4$ of 64 = 32 (I) · $2/8$ of 156 = 39 (U) · $2/10$ of 55 = 11 (D) · $2/6$ of 15 = 5 (A) · $1/3$ of 78 = 26 (R) · $2/10$ of 140 = 28 (P) · $1/4$ of 92 = 23 (O) · $1/2$ of 60 = 30 (N) · $1/2$ of 14 = 7 (H) · $1/5$ of 175 = 35 (S) · $2/3$ of 6 = 4 (L) · $2/8$ of 152 = 38 (C)

Clue 2 (Order of operations): "THE WAND INK WAS SMUDGED ON THE LEFT SIDE"

$38 + 3 \times 9 = 65$ (T) · $11 + 4 \times 6 = 35$ (M) · $9 \times 8 - 14 = 58$ (K) · $8 \times 6 - 2 = 46$ (L) · $8 + 2 \times 2 = 12$ (G) · $6 + 3 \times 3 = 15$ (W) · $12 \times 7 - 22 = 62$ (S) · $55 + 5 \times 4 = 75$ (N) · $12 + 2 \times 7 = 26$ (F) · $12 \times 3 - 13 = 23$ (H) · $3 + 2 \times 3 = 9$ (U) · $4 \times 7 - 4 = 24$ (I) · $42 + 2 \times 9 = 60$ (D) · $10 \times 10 - 24 = 76$ (O) · $12 \times 7 - 17 = 67$ (E) · $6 \times 11 - 12 = 54$ (A)

Clue 3 (Multiplication facts (1-12)): "THE ROGUE SHRANK BACK FROM CRYING MANDRAKES"

$4 \times 11 = 44$ (T) · $7 \times 7 = 49$ (H) · $3 \times 7 = 21$ (D) · $6 \times 3 = 18$ (N) · $3 \times 1 = 3$ (E) · $3 \times 4 = 12$ (R) · $9 \times 6 = 54$ (M) · $11 \times 12 = 132$ (O) · $3 \times 2 = 6$ (F) · $11 \times 2 = 22$ (B) · $8 \times 7 = 56$ (U) · $1 \times 11 = 11$ (G) · $5 \times 7 = 35$ (A) · $1 \times 9 = 9$ (C) · $4 \times 8 = 32$ (I) · $9 \times 4 = 36$ (Y) · $10 \times 5 = 50$ (S) · $9 \times 9 = 81$ (K)

Clue 4 (Rounding): "THREADS OF A RED SCARF WERE LEFT BEHIND"

Round 19 to the nearest ten = 20 (T) · Round 46 to the nearest ten = 50 (L) · Round 1,628 to the nearest thousand = 2000 (A) · Round 130 to the nearest ten = 130 (D) · Round 369 to the nearest ten = 370 (N) · Round 94 to the nearest ten = 90 (C) · Round 3,163 to the nearest thousand = 3000 (B) · Round 457 to the nearest hundred = 500 (O) · Round 428 to the nearest ten = 430 (I) · Round 69 to the nearest ten = 70 (S) · Round 3,739 to the nearest hundred = 3700 (H) · Round 2,333 to the nearest hundred = 2300 (F) · Round 109 to the nearest ten = 110 (W) · Round 6,540 to the nearest thousand = 7000 (E) · Round 1,729 to the nearest hundred = 1700 (R)

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

$64 \div 8 = 8$ · $25 \div 5 = 5$ · $10 \div 1 = 10$ · $3 \div 3 = 1$ · $18 \div 2 = 9$ · $55 \div 5 = 11$ · $28 \div 4 = 7$ · $10 \div 5 = 2$ · $60 \div 10 = 6$ · $44 \div 11 = 4$ · $84 \div 7 = 12$