



The Secret Map Room Caper

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

Detective: _____ **Date:** _____

A shadowy agent has slipped past the guards in the Secret Archives! They stole the Grand Empire Atlas, a vital map showing historical trade and troop routes across the globe. You must decode the encrypted messages left behind to find out who stole 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 Rogue Agent is _____

Possible suspects

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

NAME	SPECIALTY	EQUIPMENT	HANDEDNESS	HAIR EVIDENCE	VULNERABILITY
Agent Douglas	Code Breaking	Topographic Drafting Kit	Left-handed writer	Slicked back hair	Bright searchlights
Agent Richard	Night Parachuting	Aerial Camera	Right-handed writer	Messy parted hair	Loud radar pings
Agent Winston	Terrain Scouting	Cipher Decryption Device	Right-handed writer	Braided crown hair	Bright searchlights
Agent Ada	Night Parachuting	Morse Code Transmitter	Left-handed writer	Braided crown hair	Compass magnet
Agent Marie	Submarine Navigation	Armored Command Car	Right-handed writer	Messy parted hair	Compass magnet
Agent Chester	Radio Interception	Morse Code Transmitter	Right-handed writer	Messy parted hair	Loud radar pings
Agent Charles	Radio Interception	Cipher Decryption Device	Right-handed writer	Messy parted hair	Compass magnet
Agent Eleanor	Radio Interception	Cipher Decryption Device	Right-handed writer	Braided crown hair	Bright searchlights
Agent Franklin	Code Breaking	Armored Command Car	Right-handed writer	Braided crown hair	Loud radar pings
Agent Wilbur	Radio Interception	Armored Command Car	Left-handed writer	Messy parted hair	Loud radar pings
Agent Nikola	Submarine Navigation	Armored Command Car	Left-handed writer	Messy parted hair	Loud radar pings
Agent George	Radio Interception	Topographic Drafting Kit	Right-handed writer	Messy parted hair	Compass magnet
Agent Dwight	Code Breaking	Cipher Decryption Device	Left-handed writer	Messy parted hair	Compass magnet
Agent Albert	Code Breaking	Aerial Camera	Right-handed writer	Messy parted hair	Bright searchlights
Agent Amelia	Submarine Navigation	Armored Command Car	Left-handed writer	Braided crown hair	Bright searchlights
Agent Thomas	Radio Interception	Aerial Camera	Left-handed writer	Braided crown hair	Bright searchlights
Agent Florence	Night Parachuting	Morse Code Transmitter	Right-handed writer	Messy parted hair	Loud radar pings
Agent James	Terrain Scouting	Morse Code Transmitter	Right-handed writer	Messy parted hair	Loud radar pings
Agent Bernard	Terrain Scouting	Topographic Drafting Kit	Right-handed writer	Braided crown hair	Loud radar pings
Agent Grace	Terrain Scouting	Cipher Decryption Device	Right-handed writer	Slicked back hair	Compass magnet
Agent Robert	Terrain Scouting	Cipher Decryption Device	Right-handed writer	Messy parted hair	Loud radar pings

CLUE 1
Fractions of a number

Our scouts found a shred of a codebook. We only have a fraction of the pages left, but figuring out how many pages survived tells us what gear the target left behind.

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

T																T		
25	5	37	39	33	23	23	22	33	40	7	24	37	12	40	24	25		
															T			
10	12	37	21	33	26	5	37	2	7	37	21	2	28	26	25	33	24	40

$1/3 \text{ of } 75 = \square \rightarrow \text{T}$

$2/6 \text{ of } 36 = \square \rightarrow \text{S}$

$2/10 \text{ of } 185 = \square \rightarrow \text{E}$

$1/3 \text{ of } 69 = \square \rightarrow \text{L}$

$4/8 \text{ of } 42 = \square \rightarrow \text{C}$

$2/8 \text{ of } 104 = \square \rightarrow \text{P}$

$6/8 \text{ of } 52 = \square \rightarrow \text{V}$

$2/8 \text{ of } 88 = \square \rightarrow \text{A}$

$2/6 \text{ of } 84 = \square \rightarrow \text{Y}$

$2/4 \text{ of } 80 = \square \rightarrow \text{N}$

$1/8 \text{ of } 40 = \square \rightarrow \text{H}$

$8/10 \text{ of } 30 = \square \rightarrow \text{O}$

$1/5 \text{ of } 50 = \square \rightarrow \text{U}$

$7/10 \text{ of } 10 = \square \rightarrow \text{D}$

$1/5 \text{ of } 165 = \square \rightarrow \text{I}$

$1/3 \text{ of } 6 = \square \rightarrow \text{R}$

Scratch space:

Order of operations

The suspect locked the map room cabinet with a multi-step lock. By solving the operations in the exact right order, we opened it and found a clue about their writing hand.

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

56 9 39 62 60 62 30 39 15 56 80 10 69 56 39 62

62 39 15 10 39 56 62 80 69 56 9 56 9 39 10 69 28 9 56

9 57 31 63

$$50 + 3 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{T}}$$

$11 \times 3 - 5 = \boxed{} \rightarrow \boxed{\text{G}}$

$$3 \times 8 - 15 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$20 + 7 \times 7 = \boxed{} \rightarrow \boxed{}$$

$$2 + 4 \times 2 = \boxed{} \rightarrow \boxed{\mathbf{R}}$$

$8 + 8 \times 9 = \boxed{} \rightarrow \boxed{\mathbf{W}}$

$$6 \times 6 - 21 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$25 + 2 \times 7 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$24 + 4 \times 9 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$43 + 5 \times 4 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$19 + 2 \times 6 = \boxed{} \rightarrow \boxed{\text{N}}$$

$5 \times 12 - 30 = \boxed{} \rightarrow \mathbf{P}$

$$6 \times 12 - 15 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

$$26 + 6 \times 6 = \boxed{} \rightarrow \boxed{\text{S}}$$

Scratch space:

Multiplication facts (1-12)

We discovered stacks of empty shipping crates arranged in equal rows. Multiplying the rows reveals a clue about the hair strands left on the desk.

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

L

44 77 25 35 6 2 35 2 6 64 96 20 84 42 80 96 L L

84 96 56 99 2 80 2 66 32 48 99 96 6

64 77 42 96 32 96 77 20

$$4 \times 11 = \boxed{} \rightarrow \boxed{\text{L}}$$

$8 \times 8 = \square \rightarrow \text{P}$

$8 \times 6 = \boxed{} \rightarrow \boxed{\text{H}}$

$$5 \times 5 = \boxed{} \rightarrow \boxed{\mathbf{U}}$$

$8 \times 10 = \boxed{} \rightarrow \boxed{\mathbf{W}}$

$$7 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$11 \times 9 = \boxed{} \rightarrow \boxed{\text{E}}$

$7 \times 11 = \boxed{} \rightarrow \boxed{0}$

$5 \times 7 = \boxed{} \rightarrow \boxed{\mathbf{D}}$

$2 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$11 \times 6 = \boxed{} \rightarrow \boxed{\text{Y}}$

$12 \times 7 = \boxed{} \rightarrow \boxed{\text{G}}$

$8 \times 12 = \boxed{} \rightarrow \boxed{}$

$10 \times 2 = \boxed{} \rightarrow \boxed{\text{N}}$

$$3 \times 2 = \boxed{} \rightarrow \boxed{\text{R}}$$

$4 \times 8 = \square \rightarrow \boxed{\mathbf{T}}$

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

Scratch space:

CLUE 4 Rounding

The escape plane's fuel gauge only shows rounded whole numbers. Estimating the exact flight distance to the nearest hundred miles points us to the suspect's main weakness.

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

M																
7000	2900	3700	3700	30	3700	3000	1700	5000	30	3700	3000	1700	5000	2000	200	3700

300	2900	1700	2900	370	2900	500	3000	4300	2000	3000	170	2900	5000	3000	370	5000

Round 6,830 to the nearest thousand → **M**

Round 169 to the nearest ten → **H**

Round 3,734 to the nearest hundred → **S**

Round 2,863 to the nearest thousand → **T**

Round 374 to the nearest ten → **L**

Round 528 to the nearest hundred → **F**

Round 4,270 to the nearest hundred → **O**

Round 221 to the nearest hundred → **D**

Round 1,679 to the nearest hundred → **R**

Round 30 to the nearest ten → **Y**

Round 255 to the nearest hundred → **W**

Round 2,883 to the nearest hundred → **E**

Round 2,285 to the nearest thousand → **N**

Round 5,092 to the nearest thousand → **A**

Scratch space:

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

Our team of six codebreakers has a stack of intercepted telegrams to share equally. Dividing the files gives us the final detail about the culprit's hair.

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:

$72 \div 9 = \boxed{}$

$11 \div 1 = \boxed{}$

$33 \div 11 = \boxed{}$

$16 \div 4 = \boxed{}$

$96 \div 8 = \boxed{}$

$70 \div 7 = \boxed{}$

$35 \div 7 = \boxed{}$

$70 \div 10 = \boxed{}$

$36 \div 4 = \boxed{}$

$22 \div 11 = \boxed{}$

$10 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain steered a submarine past the harbor defense grid, then drew a detailed terrain map of the border.
2. The villain plotted a secret flight path over the Channel, then sped away in an armored command car.
3. The villain dropped from a bomber into the dark forest, then snapped photos of the coastline from above.
4. The villain plotted a secret flight path over the Channel, then drew a detailed terrain map of the border.
5. The villain dropped from a bomber into the dark forest, then drew a detailed terrain map of the border.
6. The villain intercepted the coded transatlantic broadcast, then transmitted coordinates using rapid Morse code.
7. The villain intercepted the coded transatlantic broadcast, then snapped photos of the coastline from above.
8. The villain dropped from a bomber into the dark forest, then transmitted coordinates using rapid Morse code.
9. The villain intercepted the coded transatlantic broadcast, then unlocked the safe containing the treaty plans.
10. The villain cracked the diplomatic codebook in record time, then snapped photos of the coastline from above.
11. The villain plotted a secret flight path over the Channel, then transmitted coordinates using rapid Morse code.
12. The villain steered a submarine past the harbor defense grid, then sped away in an armored command car.

Answer Key

The Secret Map Room Caper

Culprit: Agent Chester

Radio Interception · Morse Code Transmitter · Right-handed writer · Messy parted hair · Loud radar pings

Trail: Start 21 → Clue 1 15 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT USE CIPHER DECRYPTION"

$\frac{1}{3}$ of 75 = 25 (T) · $\frac{2}{6}$ of 36 = 12 (S) · $\frac{2}{10}$ of 185 = 37 (E) · $\frac{1}{3}$ of 69 = 23 (L) · $\frac{4}{8}$ of 42 = 21 (C) · $\frac{2}{8}$ of 104 = 26 (P) · $\frac{6}{8}$ of 52 = 39 (V) · $\frac{2}{8}$ of 88 = 22 (A) · $\frac{2}{6}$ of 84 = 28 (Y) · $\frac{2}{4}$ of 80 = 40 (N) · $\frac{1}{8}$ of 40 = 5 (H) · $\frac{8}{10}$ of 30 = 24 (O) · $\frac{1}{5}$ of 50 = 10 (U) · $\frac{7}{10}$ of 10 = 7 (D) · $\frac{1}{5}$ of 165 = 33 (I) · $\frac{1}{3}$ of 6 = 2 (R)

Clue 2 (Order of operations): "THE SUSPECT WRITES SECRETS WITH THE RIGHT HAND"

$50 + 3 \times 2 = 56$ (T) · $11 \times 3 - 5 = 28$ (G) · $3 \times 8 - 15 = 9$ (H) · $20 + 7 \times 7 = 69$ (I) · $2 + 4 \times 2 = 10$ (R) · $8 + 8 \times 9 = 80$ (W) · $6 \times 6 - 21 = 15$ (C) · $25 + 2 \times 7 = 39$ (E) · $24 + 4 \times 9 = 60$ (U) · $43 + 5 \times 4 = 63$ (D) · $19 + 2 \times 6 = 31$ (N) · $5 \times 12 - 30 = 30$ (P) · $6 \times 12 - 15 = 57$ (A) · $26 + 6 \times 6 = 62$ (S)

Clue 3 (Multiplication facts (1-12)): "LOUD RADAR PINGS WILL GIVE AWAY THEIR POSITION"

$4 \times 11 = 44$ (L) · $8 \times 8 = 64$ (P) · $8 \times 6 = 48$ (H) · $5 \times 5 = 25$ (U) · $8 \times 10 = 80$ (W) · $7 \times 8 = 56$ (V) · $11 \times 9 = 99$ (E) · $7 \times 11 = 77$ (O) · $5 \times 7 = 35$ (D) · $2 \times 1 = 2$ (A) · $11 \times 6 = 66$ (Y) · $12 \times 7 = 84$ (G) · $8 \times 12 = 96$ (I) · $10 \times 2 = 20$ (N) · $3 \times 2 = 6$ (R) · $4 \times 8 = 32$ (T) · $6 \times 7 = 42$ (S)

Clue 4 (Rounding): "MESSY STRAY STRANDS WERE LEFT ON THE ATLAS"

Round 6,830 to the nearest thousand = 7000 (M) · Round 169 to the nearest ten = 170 (H) · Round 3,734 to the nearest hundred = 3700 (S) · Round 2,863 to the nearest thousand = 3000 (T) · Round 374 to the nearest ten = 370 (L) · Round 528 to the nearest hundred = 500 (F) · Round 4,270 to the nearest hundred = 4300 (O) · Round 221 to the nearest hundred = 200 (D) · Round 1,679 to the nearest hundred = 1700 (R) · Round 30 to the nearest ten = 30 (Y) · Round 255 to the nearest hundred = 300 (W) · Round 2,883 to the nearest hundred = 2900 (E) · Round 2,285 to the nearest thousand = 2000 (N) · Round 5,092 to the nearest thousand = 5000 (A)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Agent Chester

$72 \div 9 = 8$ · $11 \div 1 = 11$ · $33 \div 11 = 3$ · $16 \div 4 = 4$ · $96 \div 8 = 12$ · $70 \div 7 = 10$ · $35 \div 7 = 5$ · $70 \div 10 = 7$ · $36 \div 4 = 9$ · $22 \div 11 = 2$ · $10 \div 10 = 1$