The Case of the Golden Calculator

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

Detective: _____ **Date:** _____

The Golden Calculator has vanished from the Infinity Academy vault! The Mathletes must decode the clues and find 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 Number Thief is _____

Possible suspects

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

NAME	PRIMARY TOOL	SPECIAL GEAR	ERASING HAND	HEADWEAR	CLEARED OBSTACLE
Dorothy Vaughan	grid net	number boots	right eraser	green visor	fraction block
Pythagoras	fraction wand	number boots	right eraser	blue helmet	fraction block
Rene Descartes	grid net	number boots	left eraser	symbol cap	prime door
Benoit Mandelbrot	laser protractor	number boots	right eraser	blue helmet	fraction block
Euclid	fraction wand	binary belt	right eraser	blue helmet	prime door
Grace Hopper	equation blaster	matrix cape	right eraser	blue helmet	prime door
Mary Jackson	laser protractor	number boots	left eraser	blue helmet	fraction block
Aryabhata	laser protractor	led visor	right eraser	blue helmet	prime door
Ada Lovelace	laser protractor	matrix cape	left eraser	blue helmet	fraction block
Carl Gauss	infinite ruler	digit gloves	right eraser	blue helmet	fraction block
Benjamin Banneker	laser protractor	led visor	right eraser	blue helmet	fraction block
Charles Babbage	fraction wand	binary belt	right eraser	green visor	fraction block
John Venn	laser protractor	led visor	left eraser	symbol cap	prime door
Isaac Newton	fraction wand	led visor	left eraser	symbol cap	sudoku maze
Leonhard Euler	laser protractor	digit gloves	left eraser	green visor	fraction block
Ada Byron	infinite ruler	matrix cape	right eraser	blue helmet	fraction block
Emmy Noether	laser protractor	led visor	right eraser	symbol cap	fraction block
Blaise Pascal	equation blaster	digit gloves	right eraser	green visor	prime door
Albert Einstein	equation blaster	digit gloves	left eraser	symbol cap	sudoku maze
Katherine Johnson	equation blaster	led visor	left eraser	blue helmet	fraction block
Alan Turing	equation blaster	digit gloves	right eraser	symbol cap	sudoku maze

CLUE 1 Addition

> We count up the chalk supply boxes left in the hallway. Adding the boxes together gives us the code for our first clue.

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

5588 + 4049 = ☐ → T

4189 + 2968 = ☐ → A

6029 + 3063 = ☐ → W

632 + 1436 = ☐ → D

2745 + 6307 = ☐ → F

983 + 1937 = ☐ → R

3840 + 4915 = ☐ → O

2724 + 2510 = ☐ → L

5654 + 2775 = ☐ → S

4167 + 2837 = ☐ → N

1253 + 2570 = ☐ → E

818 + 1821 = ☐ → V

717 + 1598 = ☐ → H

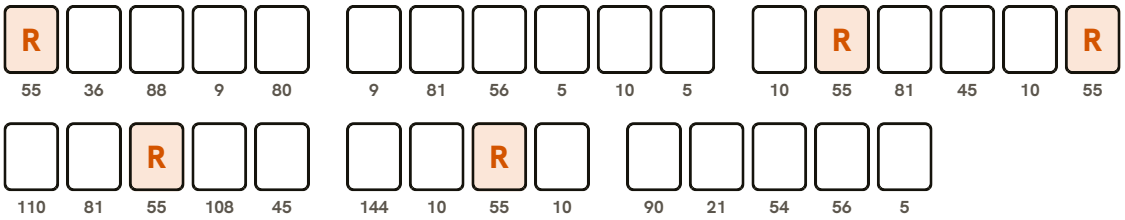
3832 + 3801 = ☐ → I

Scratch space:

CLUE 2 Multiplication facts (1-12)

> The lockers are arranged in neat rows and columns. Multiplying the rows by the columns points us to the next secret note.

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



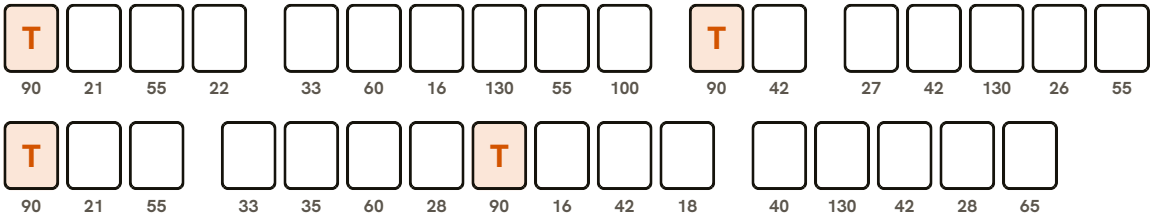
5 × 11 = ☐ → R	6 × 9 = ☐ → U	9 × 9 = ☐ → A	7 × 3 = ☐ → O
10 × 9 = ☐ → F	10 × 11 = ☐ → M	11 × 8 = ☐ → G	
8 × 7 = ☐ → N	8 × 10 = ☐ → T	1 × 9 = ☐ → H	
12 × 12 = ☐ → W	12 × 3 = ☐ → I	9 × 12 = ☐ → K	
9 × 5 = ☐ → S	2 × 5 = ☐ → E	1 × 5 = ☐ → D	

Scratch space:

CLUE 3 Skip counting

We follow a trail of numbered floor tiles. Skip counting by fives helps us skip the traps and reach the third clue.

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, ___, 100, 110 ☐ → T

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

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, 14, 16, 18, 20, 22, 24, ___, 28, 30 ☐ → V

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

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

Skip-count by 10s. Fill the blank: 10, 20, 30, ___, 50, 60 ☐ → B

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, ___, 40, 45 ☐ → R

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, ___, 70, 75 ☐ → K

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, ___, 24, 27 ☐ → H

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

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

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

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

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 ☐ → **C**

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

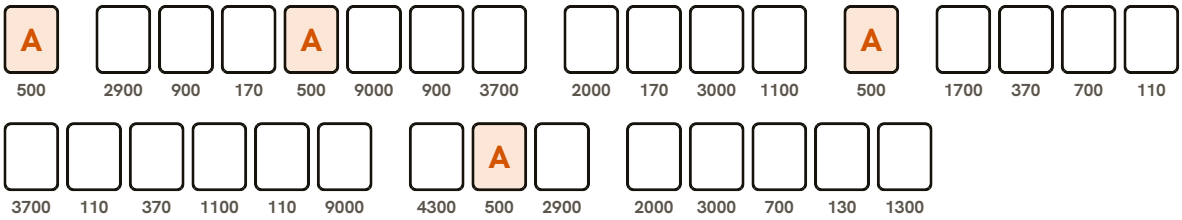
Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, ___, 70, 80 ☐ → **A**

Scratch space:

CLUE 4 Rounding

> A digital scale flashes a blurry weight reading. Rounding the number to the nearest ten reveals the locker combination.

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



Round 501 to the nearest hundred ☐ → **A**

Round 1,660 to the nearest hundred ☐ → **B**

Round 173 to the nearest ten ☐ → **R**

Round 127 to the nearest ten ☐ → **N**

Round 367 to the nearest ten ☐ → **L**

Round 1,291 to the nearest hundred ☐ → **D**

Round 2,111 to the nearest thousand ☐ → **F**

Round 2,936 to the nearest hundred ☐ → **S**

Round 4,297 to the nearest hundred ☐ → **W**

Round 3,076 to the nearest thousand ☐ → **O**

Round 1,091 to the nearest hundred ☐ → **M**

Round 3,745 to the nearest hundred ☐ → **H**

Round 901 to the nearest hundred ☐ → **C**

Round 9,172 to the nearest thousand ☐ → **T**

Round 112 to the nearest ten ☐ → **E**

Round 679 to the nearest hundred ☐ → **U**

Scratch space:

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

> We find a deck of logic cards that must be shared equally. Dividing the cards among the team gives each of us a final clue piece.

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:

2 ÷ 2 = ☐	16 ÷ 2 = ☐	14 ÷ 7 = ☐	11 ÷ 1 = ☐	84 ÷ 7 = ☐
28 ÷ 4 = ☐	4 ÷ 1 = ☐	60 ÷ 10 = ☐	45 ÷ 9 = ☐	9 ÷ 1 = ☐
24 ÷ 8 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain measured with the infinite ruler, then wrapped up in the matrix cape.
2. The villain measured with the infinite ruler, then activated the digit gloves.
3. The villain fired the equation blaster, then turned on the led visor.
4. The villain swung the laser protractor, then turned on the led visor.
5. The villain measured with the infinite ruler, then jumped high in number boots.
6. The villain waved the fraction wand, then turned on the led visor.
7. The villain fired the equation blaster, then wrapped up in the matrix cape.
8. The villain waved the fraction wand, then jumped high in number boots.
9. The villain measured with the infinite ruler, then turned on the led visor.
10. The villain swung the laser protractor, then jumped high in number boots.
11. The villain fired the equation blaster, then activated the digit gloves.
12. The villain threw the grid net, then turned on the led visor.

TEACHER / PARENT

Answer Key

The Case of the Golden Calculator

Culprit: Benoit Mandelbrot

laser protractor · number boots · right eraser · blue helmet · fraction block

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT WEAR THE LED VISOR"

5588 + 4049 = 9637 (T) · 4189 + 2968 = 7157 (A) · 6029 + 3063 = 9092 (W) · 632 + 1436 = 2068 (D) · 2745 + 6307 = 9052 (F) · 983 + 1937 = 2920 (R) · 3840 + 4915 = 8755 (O) · 2724 + 2510 = 5234 (L) · 5654 + 2775 = 8429 (S) · 4167 + 2837 = 7004 (N) · 1253 + 2570 = 3823 (E) · 818 + 1821 = 2639 (V) · 717 + 1598 = 2315 (H) · 3832 + 3801 = 7633 (I)

Clue 2 (Multiplication facts (1-12)): "RIGHT HANDED ERASER MARKS WERE FOUND"

5 × 11 = 55 (R) · 6 × 9 = 54 (U) · 9 × 9 = 81 (A) · 7 × 3 = 21 (O) · 10 × 9 = 90 (F) · 10 × 11 = 110 (M) · 11 × 8 = 88 (G) · 8 × 7 = 56 (N) · 8 × 10 = 80 (T) · 1 × 9 = 9 (H) · 12 × 12 = 144 (W) · 12 × 3 = 36 (I) · 9 × 12 = 108 (K) · 9 × 5 = 45 (S) · 2 × 5 = 10 (E) · 1 × 5 = 5 (D)

Clue 3 (Skip counting): "THEY FAILED TO SOLVE THE FRACTION BLOCK"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, ___, 100, 110 = 90 (T) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, ___, 110, 120 = 100 (D) · 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, 14, 16, 18, 20, 22, 24, ___, 28, 30 = 26 (V) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ___, 36, 39 = 33 (F) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ___, 24, 26 = 22 (Y) · Skip-count by 10s. Fill the blank: 10, 20, 30, ___, 50, 60 = 40 (B) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, ___, 40, 45 = 35 (R) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, ___, 70, 75 = 65 (K) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, ___, 24, 27 = 21 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, ___, 60, 65 = 55 (E) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, ___, 21, 24 = 18 (N) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, ___, 18, 20 = 16 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, ___, 45, 48 = 42 (O) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, ___, 30, 32 = 28 (C) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, ___, 140, 150 = 130 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, ___, 70, 80 = 60 (A)

Clue 4 (Rounding): "A SCRATCH FROM A BLUE HELMET WAS FOUND"

Round 501 to the nearest hundred = 500 (A) · Round 1,660 to the nearest hundred = 1700 (B) · Round 173 to the nearest ten = 170 (R) · Round 127 to the nearest ten = 130 (N) · Round 367 to the nearest ten = 370 (L) · Round 1,291 to the nearest hundred = 1300 (D) · Round 2,111 to the nearest thousand = 2000 (F) · Round 2,936 to the nearest hundred = 2900 (S) · Round 4,297 to the nearest hundred = 4300 (W) · Round 3,076 to the nearest thousand = 3000 (O) · Round 1,091 to the nearest hundred = 1100 (M) · Round 3,745 to the nearest hundred = 3700 (H) · Round 901 to the nearest hundred = 900 (C) · Round 9,172 to the nearest thousand = 9000 (T) · Round 112 to the nearest ten = 110 (E) · Round 679 to the nearest hundred = 700 (U)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Benoit Mandelbrot

2 ÷ 2 = 1 · 16 ÷ 2 = 8 · 14 ÷ 7 = 2 · 11 ÷ 1 = 11 · 84 ÷ 7 = 12 · 28 ÷ 4 = 7 · 4 ÷ 1 = 4 · 60 ÷ 10 = 6 · 45 ÷ 9 = 5 · 9 ÷ 1 = 9 · 24 ÷ 8 = 3