The Case of the Vanishing Masterpiece

Grade 6 math · Addition, Subtraction, Multiplication, Percentages, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

During the unveiling of the Golden Portrait, the lights flickered and the master artwork vanished! The Phantom Painter left behind colorful clues, ruined canvases, and mysterious studio gear across the gallery floor.

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 Phantom Painter is _____

Possible suspects

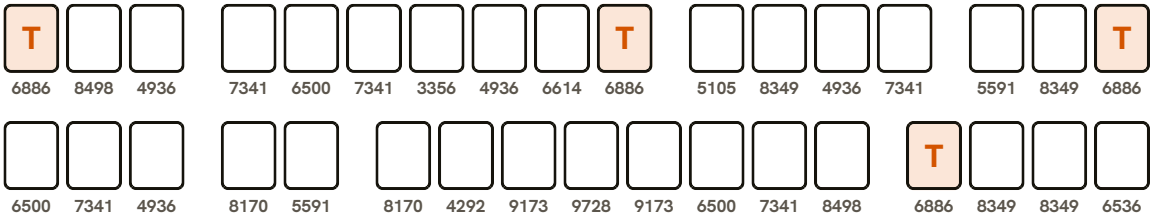
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY TECHNIQUE	SIGNATURE TOOL	DOMINANT HAND	BERET COLOR	STUDIO WEAKNESS
Paul Cezanne	Sculpting Clay	Blending Stump	Left-Handed	Bright Yellow Beret	Flashing Camera Lights
Artemisia Gentileschi	Charcoal Sketching	Fine Liner Brush	Right-Handed	Neon Pink Beret	Loud Classical Music
M. C. Escher	Sculpting Clay	Palette Knife	Right-Handed	Bright Yellow Beret	Flashing Camera Lights
Rene Magritte	Watercolor Wash	Palette Knife	Right-Handed	Neon Pink Beret	Flashing Camera Lights
Mary Cassatt	Sculpting Clay	Airbrush Tool	Right-Handed	Neon Pink Beret	Flashing Camera Lights
Joan Miro	Oil Painting	Carving Chisel	Right-Handed	Neon Pink Beret	Flashing Camera Lights
Jackson Pollock	Oil Painting	Fine Liner Brush	Left-Handed	Neon Pink Beret	Loud Classical Music
Rembrandt van Rijn	Spray Graffiti	Palette Knife	Right-Handed	Neon Pink Beret	Flashing Camera Lights
Claude Monet	Watercolor Wash	Carving Chisel	Left-Handed	Neon Pink Beret	Flashing Camera Lights
Henri Matisse	Sculpting Clay	Airbrush Tool	Left-Handed	Neon Pink Beret	Flashing Camera Lights
Salvador Dali	Spray Graffiti	Fine Liner Brush	Right-Handed	Bright Yellow Beret	Flashing Camera Lights
Andy Warhol	Charcoal Sketching	Airbrush Tool	Left-Handed	Neon Pink Beret	Turpentine Fumes
Georgia O'Keeffe	Charcoal Sketching	Palette Knife	Left-Handed	Cobalt Blue Beret	Loud Classical Music
Marc Chagall	Sculpting Clay	Carving Chisel	Right-Handed	Cobalt Blue Beret	Turpentine Fumes
Frida Kahlo	Oil Painting	Fine Liner Brush	Left-Handed	Neon Pink Beret	Flashing Camera Lights
Gustav Klimt	Sculpting Clay	Carving Chisel	Right-Handed	Bright Yellow Beret	Turpentine Fumes
Pablo Picasso	Sculpting Clay	Airbrush Tool	Left-Handed	Neon Pink Beret	Loud Classical Music
Vincent van Gogh	Spray Graffiti	Carving Chisel	Right-Handed	Neon Pink Beret	Flashing Camera Lights
Leonardo da Vinci	Charcoal Sketching	Carving Chisel	Left-Handed	Neon Pink Beret	Turpentine Fumes
Edgar Degas	Spray Graffiti	Airbrush Tool	Right-Handed	Bright Yellow Beret	Turpentine Fumes
Georges Seurat	Watercolor Wash	Fine Liner Brush	Left-Handed	Neon Pink Beret	Flashing Camera Lights

CLUE 1 Addition

To tally the total canvas rolls collected across all museum rooms, Detective Maya added up the studio logs.

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



2885 + 4001 = ☐ → T	3986 + 2514 = ☐ → U	4821 + 3349 = ☐ → A
2318 + 1038 = ☐ → P	4458 + 2156 = ☐ → C	1714 + 3877 = ☐ → N
2604 + 4737 = ☐ → S	4354 + 4819 = ☐ → R	2878 + 1414 = ☐ → I
5098 + 3400 = ☐ → H	5535 + 2814 = ☐ → O	1816 + 3120 = ☐ → E
2642 + 2463 = ☐ → D	3775 + 5953 = ☐ → B	3311 + 3225 = ☐ → L

Scratch space:

CLUE 2 Subtraction

> To figure out how many paint tubes were stolen, the restoration team subtracted the remaining inventory from the morning total.

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



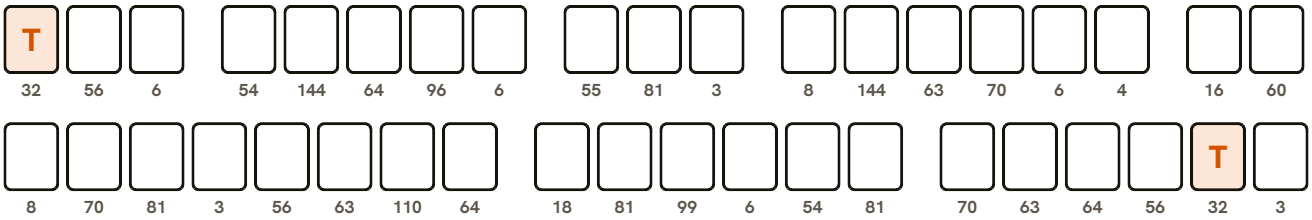
7579 - 1691 = ☐ → E	10319 - 2057 = ☐ → V	7154 - 4916 = ☐ → D
6247 - 1665 = ☐ → W	7688 - 1151 = ☐ → G	3885 - 1676 = ☐ → A
5327 - 3951 = ☐ → N	4295 - 1680 = ☐ → H	6877 - 315 = ☐ → P
3928 - 1597 = ☐ → R	8460 - 2898 = ☐ → T	11776 - 4844 = ☐ → S
6053 - 3654 = ☐ → C	8952 - 3763 = ☐ → O	10498 - 2822 = ☐ → L
7367 - 3851 = ☐ → I		

Scratch space:

CLUE 3 Multiplication facts (1-12)

> To calculate the grid of missing frames along the grand hallway, the detective multiplied the rows by the columns.

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



4 × 8 = ☐ → T	1 × 4 = ☐ → D	12 × 8 = ☐ → U
7 × 10 = ☐ → L	9 × 9 = ☐ → A	3 × 1 = ☐ → S
12 × 12 = ☐ → O	3 × 2 = ☐ → E	11 × 5 = ☐ → W
2 × 8 = ☐ → B	11 × 10 = ☐ → N	8 × 7 = ☐ → H
3 × 6 = ☐ → C	6 × 9 = ☐ → R	9 × 11 = ☐ → M
12 × 5 = ☐ → Y	4 × 2 = ☐ → F	7 × 9 = ☐ → I

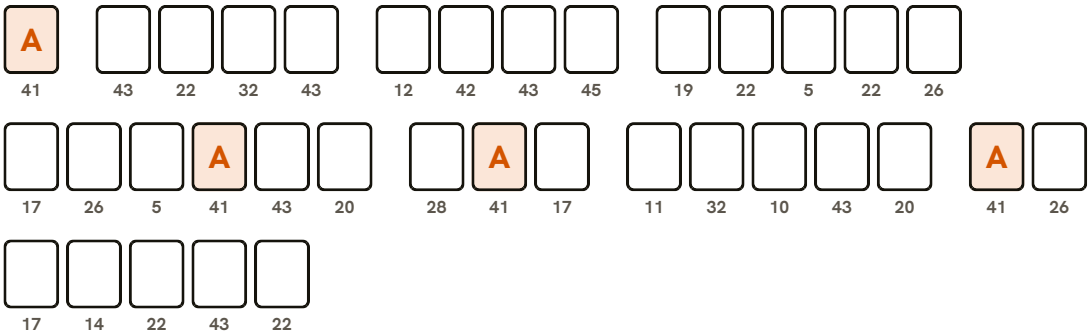
8 × 8 = ☐ → G

Scratch space:

CLUE 4 Percentages

> By calculating the percentage of restored paintings in the gallery, the team uncovered a hidden code on the progress board.

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



50% of 82 = ☐ → A

10% of 110 = ☐ → F

25% of 128 = ☐ → O

50% of 10 = ☐ → R

40% of 55 = ☐ → E

10% of 280 = ☐ → W

5% of 200 = ☐ → U

20% of 100 = ☐ → D

40% of 35 = ☐ → C

25% of 48 = ☐ → P

50% of 34 = ☐ → S

10% of 260 = ☐ → T

10% of 430 = ☐ → N

20% of 210 = ☐ → I

25% of 76 = ☐ → B

50% of 90 = ☐ → K

Scratch space:

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

To split the recovered supply brushes equally among the security staff, Detective Maya divided the total count.

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:

44 ÷ 11 = ☐ | 120 ÷ 10 = ☐ | 27 ÷ 3 = ☐ | 28 ÷ 4 = ☐ | 24 ÷ 4 = ☐

72 ÷ 9 = ☐ | 8 ÷ 4 = ☐ | 1 ÷ 1 = ☐ | 10 ÷ 1 = ☐ | 50 ÷ 10 = ☐

110 ÷ 10 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain brushed smooth watercolors, then carved details with a carving chisel.
2. The villain mixed heavy oil paints, then scraped the canvas with a palette knife.
3. The villain brushed smooth watercolors, then scraped the canvas with a palette knife.
4. The villain sprayed vivid graffiti, then scraped the canvas with a palette knife.
5. The villain shaded dark charcoal sketches, then scraped the canvas with a palette knife.
6. The villain mixed heavy oil paints, then drew outlines with a fine liner brush.
7. The villain shaded dark charcoal sketches, then smoothed shadows with a blending stump.
8. The villain brushed smooth watercolors, then smoothed shadows with a blending stump.
9. The villain mixed heavy oil paints, then carved details with a carving chisel.
10. The villain molded thick sculpting clay, then blended shades with an airbrush tool.
11. The villain sprayed vivid graffiti, then blended shades with an airbrush tool.
12. The villain sprayed vivid graffiti, then carved details with a carving chisel.

TEACHER / PARENT

Answer Key

The Case of the Vanishing Masterpiece

Culprit: Rene Magritte

Watercolor Wash · Palette Knife · Right-Handed · Neon Pink Beret · Flashing Camera Lights

Trail: Start 21 → Clue 1 16 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE SUSPECT DOES NOT USE AN AIRBRUSH TOOL"

2885 + 4001 = 6886 (T) · 3986 + 2514 = 6500 (U) · 4821 + 3349 = 8170 (A) · 2318 + 1038 = 3356 (P) · 4458 + 2156 = 6614 (C) · 1714 + 3877 = 5591 (N) · 2604 + 4737 = 7341 (S) · 4354 + 4819 = 9173 (R) · 2878 + 1414 = 4292 (I) · 5098 + 3400 = 8498 (H) · 5535 + 2814 = 8349 (O) · 1816 + 3120 = 4936 (E) · 2642 + 2463 = 5105 (D) · 3775 + 5953 = 9728 (B) · 3311 + 3225 = 6536 (L)

Clue 2 (Subtraction): "EVIDENCE SHOWS RIGHT HAND GRIPPED THE TOOL"

7579 - 1691 = 5888 (E) · 10319 - 2057 = 8262 (V) · 7154 - 4916 = 2238 (D) · 6247 - 1665 = 4582 (W) · 7688 - 1151 = 6537 (G) · 3885 - 1676 = 2209 (A) · 5327 - 3951 = 1376 (N) · 4295 - 1680 = 2615 (H) · 6877 - 315 = 6562 (P) · 3928 - 1597 = 2331 (R) · 8460 - 2898 = 5562 (T) · 11776 - 4844 = 6932 (S) · 6053 - 3654 = 2399 (C) · 8952 - 3763 = 5189 (O) · 10498 - 2822 = 7676 (L) · 7367 - 3851 = 3516 (I)

Clue 3 (Multiplication facts (1-12)): "THE ROGUE WAS FOILED BY FLASHING CAMERA LIGHTS"

4 × 8 = 32 (T) · 1 × 4 = 4 (D) · 12 × 8 = 96 (U) · 7 × 10 = 70 (L) · 9 × 9 = 81 (A) · 3 × 1 = 3 (S) · 12 × 12 = 144 (O) · 3 × 2 = 6 (E) · 11 × 5 = 55 (W) · 2 × 8 = 16 (B) · 11 × 10 = 110 (N) · 8 × 7 = 56 (H) · 3 × 6 = 18 (C) · 6 × 9 = 54 (R) · 9 × 11 = 99 (M) · 8 × 8 = 64 (G) · 12 × 5 = 60 (Y) · 4 × 2 = 8 (F) · 7 × 9 = 63 (I)

Clue 4 (Percentages): "A NEON PINK BERET STRAND WAS FOUND AT SCENE"

50% of 82 = 41 (A) · 10% of 110 = 11 (F) · 25% of 128 = 32 (O) · 50% of 10 = 5 (R) · 40% of 55 = 22 (E) · 10% of 280 = 28 (W) · 5% of 200 = 10 (U) · 20% of 100 = 20 (D) · 40% of 35 = 14 (C) · 25% of 48 = 12 (P) · 50% of 34 = 17 (S) · 10% of 260 = 26 (T) · 10% of 430 = 43 (N) · 20% of 210 = 42 (I) · 25% of 76 = 19 (B) · 50% of 90 = 45 (K)

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

44 ÷ 11 = 4 · 120 ÷ 10 = 12 · 27 ÷ 3 = 9 · 28 ÷ 4 = 7 · 24 ÷ 4 = 6 · 72 ÷ 9 = 8 · 8 ÷ 4 = 2 · 1 ÷ 1 = 1 · 10 ÷ 1 = 10 · 50 ÷ 10 = 5 · 110 ÷ 10 = 11