The Great Vault Heist

Grade 2 math · Place value, Addition, Subtraction, Multiplication, Missing addends · Reading level grades 7-9

Detective: _____ **Date:** _____

Millions in pristine banknotes and precious metal ingots have vanished overnight from the high-security subterranean treasury vault. The master alarm was quietly bypassed, leaving behind cryptic financial logs and subtle evidence.

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 Vault Cracker is _____

Possible suspects

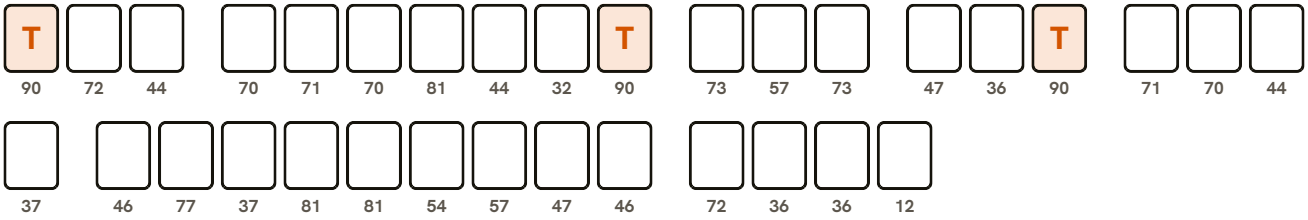
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	SIGNATURE TOOL	HEIST GADGET	STANCE	DISGUISE WIG	SECURITY FLAW
Goldie Vault	Laser Cutter	Drawn Decoy	Right Handed	Neon Buzzcut	Squeaky Shoes
Vaultman Vance	Decrypter Chip	Smoke Pellet	Left Handed	Silver Pompadour	Squeaky Shoes
Richy Rich	Thermal Drill	Smoke Pellet	Left Handed	Neon Buzzcut	Shiny Cufflinks
Sterling Cash	Thermal Drill	Grappling Hook	Left Handed	Neon Buzzcut	Squeaky Shoes
Penny Wise	Laser Cutter	Smoke Pellet	Right Handed	Neon Buzzcut	Loud Footsteps
Cornelius Vanderbilt	Laser Cutter	Grappling Hook	Left Handed	Neon Buzzcut	Squeaky Shoes
Andrew Carnegie	Keycard Cloner	EMP Grenade	Right Handed	Neon Buzzcut	Squeaky Shoes
Frank Currency	Thermal Drill	Drawn Decoy	Right Handed	Auburn Bob	Shiny Cufflinks
Chase Morgan	Decrypter Chip	Smoke Pellet	Left Handed	Silver Pompadour	Loud Footsteps
Coin Carter	Thermal Drill	Grappling Hook	Right Handed	Neon Buzzcut	Shiny Cufflinks
Diamond Dan	Decrypter Chip	Drawn Decoy	Left Handed	Neon Buzzcut	Shiny Cufflinks
Janet Yellen	Laser Cutter	Signal Jammer	Right Handed	Neon Buzzcut	Shiny Cufflinks
Ledger Leigh	Decrypter Chip	Signal Jammer	Left Handed	Silver Pompadour	Shiny Cufflinks
Penny Pinch	Keycard Cloner	Drawn Decoy	Right Handed	Neon Buzzcut	Shiny Cufflinks
Banker Bob	Laser Cutter	Signal Jammer	Right Handed	Silver Pompadour	Shiny Cufflinks
Elon Musk	Decrypter Chip	Smoke Pellet	Right Handed	Auburn Bob	Loud Footsteps
Tally Taylor	Vault Stethoscope	EMP Grenade	Right Handed	Neon Buzzcut	Squeaky Shoes
Cash Calloway	Vault Stethoscope	Smoke Pellet	Left Handed	Neon Buzzcut	Squeaky Shoes
Amber Mint	Keycard Cloner	Signal Jammer	Right Handed	Neon Buzzcut	Shiny Cufflinks
Buck Hunter	Laser Cutter	EMP Grenade	Left Handed	Silver Pompadour	Squeaky Shoes
Bullion Bill	Decrypter Chip	EMP Grenade	Right Handed	Neon Buzzcut	Shiny Cufflinks

CLUE 1 Place value

> The head accountant checked the digital mint display to see which digit held the tens position.

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



What number has 9 tens and 0 ones? ☐ → T

What number has 5 tens and 7 ones? ☐ → I

What number has 4 tens and 6 ones? ☐ → G

What number has 7 tens and 3 ones? ☐ → D

What number has 3 tens and 7 ones? ☐ → A

What number has 7 tens and 0 ones? ☐ → S

What number has 4 tens and 7 ones? ☐ → N

What number has 4 tens and 4 ones? ☐ → E

What number has 8 tens and 1 one? ☐ → P

What number has 7 tens and 7 ones? ☐ → R

What number has 7 tens and 2 ones? ☐ → H

What number has 5 tens and 4 ones? ☐ → L

What number has 3 tens and 6 ones? ☐ → O

What number has 7 tens and 1 one? ☐ → U

What number has 1 ten and 2 ones? ☐ → K

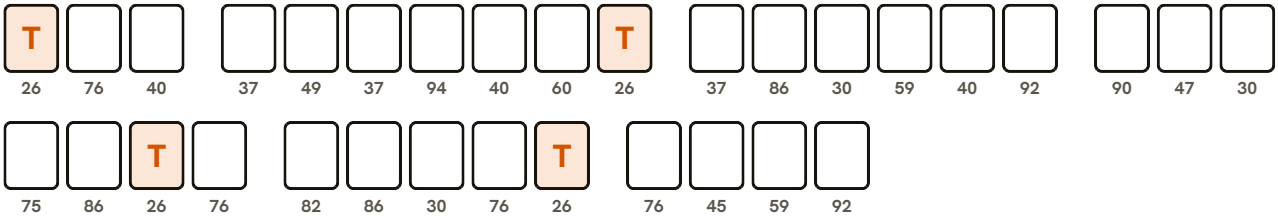
What number has 3 tens and 2 ones? ☐ → C

Scratch space:

CLUE 2 Addition

Security officers added together the stack of cash trays collected from the lobby.

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



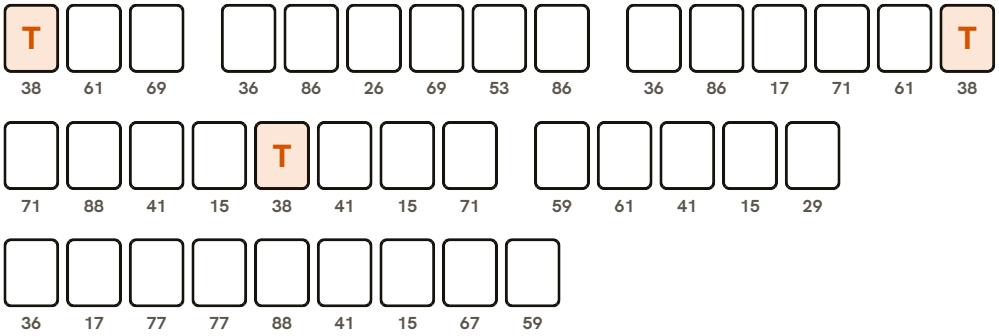
10 + 16 = ☐ → T	51 + 41 = ☐ → D	34 + 48 = ☐ → R
26 + 11 = ☐ → S	39 + 21 = ☐ → C	43 + 43 = ☐ → I
42 + 48 = ☐ → L	35 + 41 = ☐ → H	41 + 18 = ☐ → N
14 + 33 = ☐ → O	30 + 45 = ☐ → W	21 + 24 = ☐ → A
33 + 16 = ☐ → U	26 + 14 = ☐ → E	14 + 16 = ☐ → G
42 + 52 = ☐ → P		

Scratch space:

CLUE 3 Subtraction

> Investigators calculated how much bullion remained after subtracting the stolen bars.

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



49 - 11 = ☐ → T

77 - 16 = ☐ → H

64 - 11 = ☐ → R

90 - 31 = ☐ → S

106 - 39 = ☐ → K

52 - 16 = ☐ → C

109 - 21 = ☐ → L

49 - 23 = ☐ → M

54 - 39 = ☐ → N

124 - 38 = ☐ → A

110 - 33 = ☐ → F

106 - 37 = ☐ → E

34 - 5 = ☐ → Y

50 - 33 = ☐ → U

73 - 32 = ☐ → I

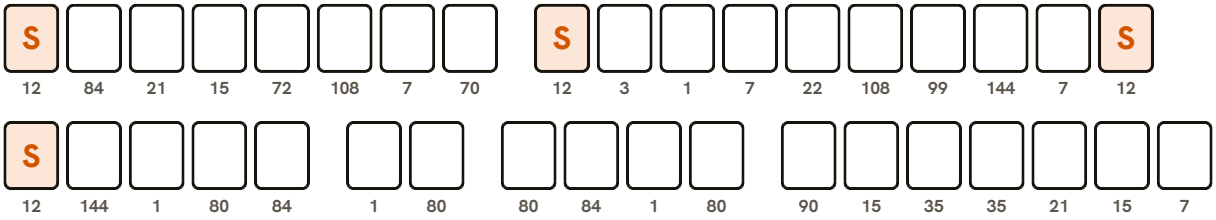
97 - 26 = ☐ → G

Scratch space:

CLUE 4 Multiplication facts (1-12)

> The vault manager counted equal stacks of currency banded into tight bundles.

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



4 × 3 = ☐ → S	1 × 7 = ☐ → T	11 × 9 = ☐ → G	3 × 7 = ☐ → C
3 × 1 = ☐ → P	12 × 7 = ☐ → E	7 × 5 = ☐ → Z	
12 × 6 = ☐ → R	3 × 5 = ☐ → U	9 × 12 = ☐ → I	
9 × 10 = ☐ → B	8 × 10 = ☐ → N	12 × 12 = ☐ → H	
1 × 1 = ☐ → O	11 × 2 = ☐ → L	10 × 7 = ☐ → Y	

Scratch space:

CLUE 5 Missing addends - the last clue

The auditor calculated how many missing gold coins were needed to complete the inventory record.

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:

9 + ___ = 21 ☐	9 + ___ = 16 ☐	8 + ___ = 12 ☐	2 + ___ = 10 ☐
7 + ___ = 18 ☐	1 + ___ = 4 ☐	6 + ___ = 7 ☐	8 + ___ = 17 ☐	3 + ___ = 9 ☐
9 + ___ = 19 ☐	2 + ___ = 4 ☐		

Step 2 - cross out the sentence with each answer:

1. The villain bored through the vault using a thermal drill, then vanished into the room using a smoke pellet.
2. The villain copied the master badge using a keycard cloner, then escaped up to the roof on a grappling hook.
3. The villain bypassed the keypad with a decrypter chip, then confused the guards using a drawn decoy.
4. The villain sliced open the safe with a laser cutter, then blocked radio calls with a signal jammer.
5. The villain bypassed the keypad with a decrypter chip, then disabled the cameras with an emp grenade.
6. The villain bypassed the keypad with a decrypter chip, then escaped up to the roof on a grappling hook.
7. The villain copied the master badge using a keycard cloner, then confused the guards using a drawn decoy.
8. The villain cracked the combination with a vault stethoscope, then vanished into the room using a smoke pellet.
9. The villain cracked the combination with a vault stethoscope, then blocked radio calls with a signal jammer.
10. The villain bypassed the keypad with a decrypter chip, then vanished into the room using a smoke pellet.
11. The villain bypassed the keypad with a decrypter chip, then blocked radio calls with a signal jammer.
12. The villain copied the master badge using a keycard cloner, then blocked radio calls with a signal jammer.

TEACHER / PARENT

Answer Key

The Great Vault Heist

Culprit: Bullion Bill

Decrypter Chip · EMP Grenade · Right Handed · Neon Buzzcut · Shiny Cufflinks

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SUSPECT DID NOT USE A GRAPPLING HOOK"

What number has 9 tens and 0 ones? = 90 (T) · What number has 5 tens and 7 ones? = 57 (I) · What number has 4 tens and 6 ones? = 46 (G) · What number has 7 tens and 3 ones? = 73 (D) · What number has 3 tens and 7 ones? = 37 (A) · What number has 7 tens and 0 ones? = 70 (S) · What number has 4 tens and 7 ones? = 47 (N) · What number has 4 tens and 4 ones? = 44 (E) · What number has 8 tens and 1 one? = 81 (P) · What number has 7 tens and 7 ones? = 77 (R) · What number has 7 tens and 2 ones? = 72 (H) · What number has 5 tens and 4 ones? = 54 (L) · What number has 3 tens and 6 ones? = 36 (O) · What number has 7 tens and 1 one? = 71 (U) · What number has 1 ten and 2 ones? = 12 (K) · What number has 3 tens and 2 ones? = 32 (C)

Clue 2 (Addition): "THE SUSPECT SIGNED LOG WITH RIGHT HAND"

10 + 16 = 26 (T) · 51 + 41 = 92 (D) · 34 + 48 = 82 (R) · 26 + 11 = 37 (S) · 39 + 21 = 60 (C) · 43 + 43 = 86 (I) · 42 + 48 = 90 (L) · 35 + 41 = 76 (H) · 41 + 18 = 59 (N) · 14 + 33 = 47 (O) · 30 + 45 = 75 (W) · 21 + 24 = 45 (A) · 33 + 16 = 49 (U) · 26 + 14 = 40 (E) · 14 + 16 = 30 (G) · 42 + 52 = 94 (P)

Clue 3 (Subtraction): "THE CAMERA CAUGHT GLINTING SHINY CUFFLINKS"

49 - 11 = 38 (T) · 77 - 16 = 61 (H) · 64 - 11 = 53 (R) · 90 - 31 = 59 (S) · 106 - 39 = 67 (K) · 52 - 16 = 36 (C) · 109 - 21 = 88 (L) · 49 - 23 = 26 (M) · 54 - 39 = 15 (N) · 124 - 38 = 86 (A) · 110 - 33 = 77 (F) · 106 - 37 = 69 (E) · 34 - 5 = 29 (Y) · 50 - 33 = 17 (U) · 73 - 32 = 41 (I) · 97 - 26 = 71 (G)

Clue 4 (Multiplication facts (1-12)): "SECURITY SPOTLIGHTS SHONE ON NEON BUZZCUT"

4 × 3 = 12 (S) · 1 × 7 = 7 (T) · 11 × 9 = 99 (G) · 3 × 7 = 21 (C) · 3 × 1 = 3 (P) · 12 × 7 = 84 (E) · 7 × 5 = 35 (Z) · 12 × 6 = 72 (R) · 3 × 5 = 15 (U) · 9 × 12 = 108 (I) · 9 × 10 = 90 (B) · 8 × 10 = 80 (N) · 12 × 12 = 144 (H) · 1 × 1 = 1 (O) · 11 × 2 = 22 (L) · 10 × 7 = 70 (Y)

Clue 5 (Missing addends): surviving statement is box 5 → Bullion Bill

9 + ___ = 21 = 12 · 9 + ___ = 16 = 7 · 8 + ___ = 12 = 4 · 2 + ___ = 10 = 8 · 7 + ___ = 18 = 11 · 1 + ___ = 4 = 3 · 6 + ___ = 7 = 1 · 8 + ___ = 17 = 9 · 3 + ___ = 9 = 6 · 9 + ___ = 19 = 10 · 2 + ___ = 4 = 2