



The Mystery of the Missing Debut Vinyl

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

Detective: _____ Date: _____

A VIP lounge heist has shocked the club! Someone broke into the private lounge and swiped the golden golf putter along with the ultra-rare, signed Katseye debut vinyl. It is up to you to crack the codes and recover the club's treasures!

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 Vinyl Swiper is _____

Possible suspects

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

NAME	SIGNATURE GEAR	SPECIAL SKILL	STANCE	HAIRSTYLE	DISTRACTION
Alice	hyper speed sneakers	high jumping	left handed swing	sleek black bob	overdue book fine
Chloe	sonic headphones	silent stepping	right handed swing	neon pink ponytail	pop music distraction
Jo	sonic headphones	speed reading	left handed swing	wavy brown braids	pop music distraction
Matilda	laser book light	speed reading	left handed swing	neon pink ponytail	pop music distraction
Nelly	sonic headphones	silent stepping	left handed swing	sleek black bob	overdue book fine
Darcy	hyper speed sneakers	high jumping	right handed swing	neon pink ponytail	pop music distraction
Yoonchae	sonic headphones	speed reading	right handed swing	neon pink ponytail	pop music distraction
Lara	hyper speed sneakers	dance routine	left handed swing	neon pink ponytail	pop music distraction
Rose	laser book light	dance routine	left handed swing	sleek black bob	overdue book fine
Maya	titanium putter	dance routine	right handed swing	neon pink ponytail	lost golf ball
Emma	laser book light	silent stepping	left handed swing	neon pink ponytail	overdue book fine
Brooke	sonic headphones	perfect swing	right handed swing	neon pink ponytail	pop music distraction
Lydia	sonic headphones	perfect swing	right handed swing	wavy brown braids	pop music distraction
Piper	hyper speed sneakers	high jumping	left handed swing	sleek black bob	pop music distraction
Sadie	sonic headphones	silent stepping	right handed swing	neon pink ponytail	overdue book fine
Manon	titanium putter	dance routine	right handed swing	neon pink ponytail	pop music distraction
Megan	titanium putter	dance routine	right handed swing	wavy brown braids	pop music distraction
Charley	sonic headphones	silent stepping	right handed swing	sleek black bob	pop music distraction
Kelly	glowing golf ball	high jumping	right handed swing	neon pink ponytail	pop music distraction
Lexi	hyper speed sneakers	silent stepping	right handed swing	neon pink ponytail	overdue book fine
Daniela	hyper speed sneakers	dance routine	left handed swing	sleek black bob	pop music distraction

Fractions of a number

The suspect dropped a heavy box of golf balls while fleeing. The club caddy noticed that exactly two fifths of the balls were cracked which helped us narrow down our first major lead.

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

A number line from 0 to 100. The line is divided into 10 groups of 10 units each. Each group contains a box for the tens digit and a box for the ones digit. The numbers 3, 14, 39, 21, 35, 12, 12, 4, 35, 7, 6, 4, 7, 7, 20, 3, 13, and 20 are written below their respective boxes. The boxes for 3 and 39 contain the letter 'T'.

Tens	Ones	Number
3	9	39
2	1	21
3	5	35
1	2	12
1	2	12
0	4	4
3	5	35
0	7	7
6	0	60
4	0	40
7	0	70
7	0	70
2	0	20
3	0	30
1	3	13
2	0	20

$1/2$ of 6 = $\rightarrow$ **T**

$1/6 \text{ of } 30 = \boxed{} \rightarrow \boxed{\text{P}}$

$3/10$ of $70 = \boxed{} \rightarrow \mathbf{V}$

$$\frac{1}{8} \text{ of } 104 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$\frac{1}{4} \text{ of } 96 = \boxed{} \rightarrow \boxed{\text{M}}$$

$2/5$ of $35 = \boxed{} \rightarrow \boxed{\text{H}}$

$$\frac{1}{5} \text{ of } 95 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$\frac{3}{5} \text{ of } 65 = \boxed{} \rightarrow \boxed{\text{E}}$$

$2/4$ of $8 = \square \rightarrow \mathbf{A}$

4/6 of 9 = → **C**

$$\frac{1}{4} \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{L}}$$

1/10 of 20 = → **J**

$\frac{5}{8}$ of 56 = $\rightarrow$

$\frac{1}{8}$ of 56 = $\rightarrow$ **N**

2/6 of 69 = → **G**

$\frac{1}{4}$ of 80 = $\rightarrow$

Scratch space:

CLUE 2

Order of operations

We found a coded message hidden inside a thriller novel in the lounge. To read the secret locker combo and find the next clue we must solve a multi step equation.

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

T																	
11	6	14	75	22	52	51	14	50	75	14	47	14	6	38	50	38	
				T													
22	52	26	6	11	6	38	47	10	14	10	50	30	52	47	26		

$3 + 4 \times 2 = \square \rightarrow \boxed{\text{T}}$

$22 + 5 \times 6 = \square \rightarrow \boxed{\text{I}}$

$11 \times 8 - 13 = \square \rightarrow \boxed{\text{C}}$

$7 \times 7 - 2 = \square \rightarrow \boxed{\text{N}}$

$12 \times 4 - 18 = \square \rightarrow \boxed{\text{W}}$

$3 \times 10 - 8 = \square \rightarrow \boxed{\text{R}}$

$3 \times 11 - 7 = \square \rightarrow \boxed{\text{G}}$

$7 \times 3 - 11 = \square \rightarrow \boxed{\text{D}}$

$6 + 8 \times 4 = \square \rightarrow \boxed{\text{A}}$

$6 \times 12 - 21 = \square \rightarrow \boxed{\text{M}}$

$8 + 6 \times 7 = \square \rightarrow \boxed{\text{S}}$

$2 + 2 \times 2 = \square \rightarrow \boxed{\text{H}}$

$3 \times 10 - 16 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

The thief ran through the storage room knocking over five rows of golf bag shelves with six bags in each row. Multiplying these groups together leads us to a clue about their weakness.

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

T						T													
66	100	27	45	90	66	77	108	108	27	35	66	77	35	88	49	54	27		

T										
66	77	108	77	108	56	21	90	50	54	

$11 \times 6 = \square \rightarrow$ T	$7 \times 8 = \square \rightarrow$ M	$7 \times 7 = \square \rightarrow$ N	
$10 \times 5 = \square \rightarrow$ I	$9 \times 5 = \square \rightarrow$ Y	$11 \times 8 = \square \rightarrow$ A	
$3 \times 7 = \square \rightarrow$ U	$9 \times 6 = \square \rightarrow$ C	$5 \times 7 = \square \rightarrow$ D	$10 \times 9 = \square \rightarrow$ S
$3 \times 9 = \square \rightarrow$ E	$10 \times 10 = \square \rightarrow$ H	$9 \times 12 = \square \rightarrow$ P	
$11 \times 7 = \square \rightarrow$ O			

Scratch space:

CLUE 4 Rounding

The security laser scanned the thief's escape golf cart but the damaged screen only shows the weight rounded to the nearest thousand. Rounding the display correctly reveals a new clue.

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

A											A							A		
430	4300	1300	700	4300	130	5000	4300	110	900	430	5000	3000	7000	50	3000	430	4300	200		
	A																			
2000	430	7000	500	700	3700	4300	200													

Round 431 to the nearest ten → **A**

Round 4,965 to the nearest thousand → **I**

Round 48 to the nearest ten → **T**

Round 901 to the nearest hundred → **H**

Round 7,068 to the nearest thousand → **S**

Round 3,741 to the nearest hundred → **U**

Round 110 to the nearest ten → **K**

Round 1,800 to the nearest thousand → **W**

Round 1,289 to the nearest hundred → **E**

Round 131 to the nearest ten → **P**

Round 2,745 to the nearest thousand → **R**

Round 510 to the nearest hundred → **F**

Round 710 to the nearest hundred → **O**

Round 168 to the nearest hundred → **D**

Round 4,275 to the nearest hundred → **N**

Scratch space:

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

We recovered a stolen stack of limited edition Katseye photo cards. Dividing the deck equally among the four junior golfers on the team reveals a secret note on the remaining card.

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:

$6 \div 1 = \boxed{}$

$36 \div 3 = \boxed{}$

$30 \div 6 = \boxed{}$

$99 \div 9 = \boxed{}$

$8 \div 4 = \boxed{}$

$48 \div 12 = \boxed{}$

$15 \div 5 = \boxed{}$

$54 \div 6 = \boxed{}$

$56 \div 7 = \boxed{}$

$50 \div 5 = \boxed{}$

$21 \div 3 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swings a titanium putter, then busts a move with a dance routine.
2. The villain sprints in hyper speed sneakers, then busts a move with a dance routine.
3. The villain sprints in hyper speed sneakers, then shows off a perfect swing.
4. The villain sprints in hyper speed sneakers, then sneaks past security with silent stepping.
5. The villain cranks up sonic headphones, then shows off a perfect swing.
6. The villain cranks up sonic headphones, then sneaks past security with silent stepping.
7. The villain swings a titanium putter, then finishes a chapter with speed reading.
8. The villain rolls a glowing golf ball, then finishes a chapter with speed reading.
9. The villain swings a titanium putter, then sneaks past security with silent stepping.
10. The villain sprints in hyper speed sneakers, then finishes a chapter with speed reading.
11. The villain rolls a glowing golf ball, then busts a move with a dance routine.
12. The villain cranks up sonic headphones, then finishes a chapter with speed reading.

Answer Key

The Mystery of the Missing Debut Vinyl

Culprit: Manon

titanium putter · dance routine · right handed swing · neon pink ponytail · pop music distraction

Trail: Start 21 → Clue 1 17 → Clue 2 10 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN CANNOT DO HIGH JUMPING"

$\frac{1}{2}$ of 6 = 3 (T) · $\frac{1}{6}$ of 30 = 5 (P) · $\frac{3}{10}$ of 70 = 21 (V) · $\frac{1}{8}$ of 104 = 13 (D) · $\frac{1}{4}$ of 96 = 24 (M) · $\frac{2}{5}$ of 35 = 14 (H) · $\frac{1}{5}$ of 95 = 19 (U) · $\frac{3}{5}$ of 65 = 39 (E) · $\frac{2}{4}$ of 8 = 4 (A) · $\frac{4}{6}$ of 9 = 6 (C) · $\frac{1}{4}$ of 48 = 12 (L) · $\frac{1}{10}$ of 20 = 2 (J) · $\frac{5}{8}$ of 56 = 35 (I) · $\frac{1}{8}$ of 56 = 7 (N) · $\frac{2}{6}$ of 69 = 23 (G) · $\frac{1}{4}$ of 80 = 20 (O)

Clue 2 (Order of operations): "THE CRIME SCENE HAS A RIGHT HANDED SWING"

$3 + 4 \times 2 = 11$ (T) · $22 + 5 \times 6 = 52$ (I) · $11 \times 8 - 13 = 75$ (C) · $7 \times 7 - 2 = 47$ (N) · $12 \times 4 - 18 = 30$ (W) · $3 \times 10 - 8 = 22$ (R) · $3 \times 11 - 7 = 26$ (G) · $7 \times 3 - 11 = 10$ (D) · $6 + 8 \times 4 = 38$ (A) · $6 \times 12 - 21 = 51$ (M) · $8 + 6 \times 7 = 50$ (S) · $2 + 2 \times 2 = 6$ (H) · $3 \times 10 - 16 = 14$ (E)

Clue 3 (Multiplication facts (1-12)): "THEY STOPPED TO DANCE TO POP MUSIC"

$11 \times 6 = 66$ (T) · $7 \times 8 = 56$ (M) · $7 \times 7 = 49$ (N) · $10 \times 5 = 50$ (I) · $9 \times 5 = 45$ (Y) · $11 \times 8 = 88$ (A) · $3 \times 7 = 21$ (U) · $9 \times 6 = 54$ (C) · $5 \times 7 = 35$ (D) · $10 \times 9 = 90$ (S) · $3 \times 9 = 27$ (E) · $10 \times 10 = 100$ (H) · $9 \times 12 = 108$ (P) · $11 \times 7 = 77$ (O)

Clue 4 (Rounding): "A NEON PINK HAIR STRAND WAS FOUND"

Round 431 to the nearest ten = 430 (A) · Round 4,965 to the nearest thousand = 5000 (I) · Round 48 to the nearest ten = 50 (T) · Round 901 to the nearest hundred = 900 (H) · Round 7,068 to the nearest thousand = 7000 (S) · Round 3,741 to the nearest hundred = 3700 (U) · Round 110 to the nearest ten = 110 (K) · Round 1,800 to the nearest thousand = 2000 (W) · Round 1,289 to the nearest hundred = 1300 (E) · Round 131 to the nearest ten = 130 (P) · Round 2,745 to the nearest thousand = 3000 (R) · Round 510 to the nearest hundred = 500 (F) · Round 710 to the nearest hundred = 700 (O) · Round 168 to the nearest hundred = 200 (D) · Round 4,275 to the nearest hundred = 4300 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 1 → Manon

$6 \div 1 = 6$ · $36 \div 3 = 12$ · $30 \div 6 = 5$ · $99 \div 9 = 11$ · $8 \div 4 = 2$ · $48 \div 12 = 4$ · $15 \div 5 = 3$ · $54 \div 6 = 9$ · $56 \div 7 = 8$ · $50 \div 5 = 10$ · $21 \div 3 = 7$