



The Case of the Missing Diamond Tiara

Grade 4 math · Addition, Subtraction, Skip counting, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

Welcome to Paris Fashion Week! The lights are bright, and the models are ready to walk the runway. But just moments before the grand finale, someone stole the priceless Diamond Tiara from the main display. Head Designer Madame Celeste is in tears. It is up to you, the youngest fashion detective in the world, to interview the suspects and find the Saboteur before the final curtain drops!

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 Style Saboteur is _____

Possible suspects

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

NAME	SIGNATURE STYLE	DESIGNER ACCESSORY	RUNWAY HABIT	HAIRSTYLE	FASHION EMERGENCY
Twiggy	Pastel Princess	Pearl Tiara	Chews Bubblegum	Tousled Space Buns	Static Cling Shock
Selena	Gothic Chic	Velvet Beret	Chews Bubblegum	Blunt Bob Cut	Squeaky Runway Heel
Lupita	Gothic Chic	Velvet Beret	Chews Bubblegum	Blunt Bob Cut	Snagged Zipper
Karlie	Pastel Princess	Velvet Beret	Chews Bubblegum	Blunt Bob Cut	Squeaky Runway Heel
Gigi	Retro Vintage	Golden Clutch	Chews Bubblegum	Sleek High Ponytail	Static Cling Shock
Kendall	Pastel Princess	Velvet Beret	Chews Bubblegum	Blunt Bob Cut	Static Cling Shock
Donatella	Retro Vintage	Diamond Choker	Chews Bubblegum	Blunt Bob Cut	Squeaky Runway Heel
Cara	Pastel Princess	Golden Clutch	Chews Bubblegum	Sleek High Ponytail	Snagged Zipper
Stella	Retro Vintage	Diamond Choker	Wears Sunglasses	Blunt Bob Cut	Snagged Zipper
Ariana	Neon Glam	Pearl Tiara	Chews Bubblegum	Blunt Bob Cut	Static Cling Shock
Taylor	Streetwear Edge	Golden Clutch	Wears Sunglasses	Sleek High Ponytail	Squeaky Runway Heel
Bella	Neon Glam	Diamond Choker	Chews Bubblegum	Tousled Space Buns	Squeaky Runway Heel
Rihanna	Streetwear Edge	Golden Clutch	Chews Bubblegum	Tousled Space Buns	Snagged Zipper
Ashley	Pastel Princess	Silk Scarf	Wears Sunglasses	Blunt Bob Cut	Squeaky Runway Heel
Zendaya	Retro Vintage	Velvet Beret	Chews Bubblegum	Sleek High Ponytail	Static Cling Shock
Coco	Gothic Chic	Golden Clutch	Chews Bubblegum	Blunt Bob Cut	Squeaky Runway Heel
Vera	Streetwear Edge	Silk Scarf	Chews Bubblegum	Blunt Bob Cut	Squeaky Runway Heel
Tyra	Neon Glam	Pearl Tiara	Wears Sunglasses	Blunt Bob Cut	Snagged Zipper
Heidi	Pastel Princess	Diamond Choker	Wears Sunglasses	Blunt Bob Cut	Snagged Zipper
Olivia	Pastel Princess	Pearl Tiara	Wears Sunglasses	Blunt Bob Cut	Squeaky Runway Heel
Naomi	Neon Glam	Golden Clutch	Wears Sunglasses	Blunt Bob Cut	Static Cling Shock

CLUE 1 Addition

To find the first clue, we must count the total number of designer sketchbooks by adding the stacks on the main cutting table.

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

T 3949	2374	8510	T 3949	2374	9359	8510	4570	6739	7070	8510	9061	9492	7070	T 3949	4292	8510	4335	6093
4335	9061	9359	2301	7237	9061	3728	4335	6093	4570									

$1895 + 2054 = \square \rightarrow \text{[T]}$

$2023 + 2547 = \square \rightarrow \text{[F]}$

$6110 + 3249 = \square \rightarrow \text{[I]}$

$3839 + 2900 = \square \rightarrow \text{[D]}$

$1765 + 2527 = \square \rightarrow \text{[W]}$

$4452 + 4609 = \square \rightarrow \text{[S]}$

$2571 + 1764 = \square \rightarrow \text{[A]}$

$3674 + 3396 = \square \rightarrow \text{[O]}$

$2738 + 3355 = \square \rightarrow \text{[R]}$

$5039 + 4453 = \square \rightarrow \text{[N]}$

$2253 + 1475 = \square \rightarrow \text{[C]}$

$4765 + 3745 = \square \rightarrow \text{[E]}$

$2944 + 4293 = \square \rightarrow \text{[K]}$

$1073 + 1301 = \square \rightarrow \text{[H]}$

$1492 + 809 = \square \rightarrow \text{[L]}$

Scratch space:

CLUE 2 Subtraction

We can trace the suspect's path by looking at the missing mannequin stands, subtracting the remaining props from yesterday's total.

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

T																			
2914	5200	6364	2341	8877	2341	8451	6364	2392	2914	7688	8907	4891	3811	2341	5200	8877	8695	6364	
8451	8435	3340	8155	7688	8877	7688	7688	8907	6364	8695	8877	5773	7688	8877	7688	7688	8907	6364	2341

$$4392 - 1478 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$12793 - 4358 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$12868 - 4713 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$9192 - 497 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$2614 - 273 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$6049 - 276 = \boxed{} \rightarrow \boxed{\text{M}}$$

$$9092 - 185 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$9131 - 3931 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$7318 - 3507 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$6624 - 260 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$11742 - 4054 = \boxed{} \rightarrow \boxed{\text{B}}$$

$$8604 - 153 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$12603 - 3726 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$4895 - 1555 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$7189 - 2298 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$4691 - 2299 = \boxed{} \rightarrow \boxed{\text{C}}$$

Scratch space:

CLUE 3 Skip counting

The thief escaped down a staircase decorated with fancy crystal beads, which we can count quickly by skipping along the pattern.

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

A									A							
45	39	42	130	27	33	18	130	100	45	12	60	33	14	42	100	
													A			
25	130	22	50	100	27	70	14	100	22	25	100	33	36	45	90	

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **A**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, __, 60, 70 → **N**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, __, 20, 22 → **Q**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, __, 42, 45 → **L**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 → **P**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 → **C**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **D**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, __, 16, 18 → **H**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 → **K**

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 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 → **S**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **E**

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 → **Y**

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **T**

Scratch space:

CLUE 4 Rounding

A digital sewing machine screen is glitching, only displaying the fabrics used when we round the yards to the nearest ten.

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

S					S						S			
7000	300	500	50	170	7000	900	50	1100	170	2300	7000	500	200	1100
1700	230	5000	170	900	1700	500	1700	130	5000	900	30	1300	50	1300
200	500	5000	170	2300										

Round 7,361 to the nearest thousand → **S**

Round 4,643 to the nearest thousand → **U**

Round 2,341 to the nearest hundred → **D**

Round 267 to the nearest hundred → **H**

Round 886 to the nearest hundred → **T**

Round 1,074 to the nearest hundred → **A**

Round 228 to the nearest ten → **L**

Round 1,719 to the nearest hundred → **B**

Round 203 to the nearest hundred → **F**

Round 54 to the nearest ten → **R**

Round 1,316 to the nearest hundred → **E**

Round 544 to the nearest hundred → **O**

Round 126 to the nearest ten → **C**

Round 169 to the nearest ten → **N**

Round 26 to the nearest ten → **W**

Scratch space:

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

The final clue is hidden inside gift bags that we must divide equally among the models waiting backstage.

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:

$60 \div 6 = \boxed{}$

$16 \div 2 = \boxed{}$

$60 \div 5 = \boxed{}$

$30 \div 6 = \boxed{}$

$90 \div 10 = \boxed{}$

$28 \div 7 = \boxed{}$

$84 \div 12 = \boxed{}$

$55 \div 5 = \boxed{}$

$4 \div 4 = \boxed{}$

$72 \div 12 = \boxed{}$

$30 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swiped the golden mannequin, then slipped past the bouncers.
2. The villain nabbed the diamond collar, then dropped a glitter bomb.
3. The villain hacked the dressing room lights, then slipped past the bouncers.
4. The villain hacked the dressing room lights, then left a trail of sequins.
5. The villain swiped the golden mannequin, then dropped a glitter bomb.
6. The villain strutted down the runway, then left a trail of sequins.
7. The villain strutted down the runway, then dropped a glitter bomb.
8. The villain swiped the golden mannequin, then escaped in a pink limo.
9. The villain nabbed the diamond collar, then slipped past the bouncers.
10. The villain sneaked behind the clothing rack, then left a trail of sequins.
11. The villain hacked the dressing room lights, then escaped in a pink limo.
12. The villain sneaked behind the clothing rack, then dropped a glitter bomb.

Answer Key

The Case of the Missing Diamond Tiara

Culprit: Karlie

Pastel Princess · Velvet Beret · Chews Bubblegum · Blunt Bob Cut · Squeaky Runway Heel

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT WEAR A SILK SCARF"

$1895 + 2054 = 3949$ (T) · $2023 + 2547 = 4570$ (F) · $6110 + 3249 = 9359$ (I) · $3839 + 2900 = 6739$ (D) · $1765 + 2527 = 4292$ (W) · $4452 + 4609 = 9061$ (S) · $2571 + 1764 = 4335$ (A) · $3674 + 3396 = 7070$ (O) · $2738 + 3355 = 6093$ (R) · $5039 + 4453 = 9492$ (N) · $2253 + 1475 = 3728$ (C) · $4765 + 3745 = 8510$ (E) · $2944 + 4293 = 7237$ (K) · $1073 + 1301 = 2374$ (H) · $1492 + 809 = 2301$ (L)

Clue 2 (Subtraction): "THE SUSPECT BLOWS HUGE PINK BUBBLEGUM BUBBLES"

$4392 - 1478 = 2914$ (T) · $12793 - 4358 = 8435$ (I) · $12868 - 4713 = 8155$ (K) · $9192 - 497 = 8695$ (G) · $2614 - 273 = 2341$ (S) · $6049 - 276 = 5773$ (M) · $9092 - 185 = 8907$ (L) · $9131 - 3931 = 5200$ (H) · $7318 - 3507 = 3811$ (W) · $6624 - 260 = 6364$ (E) · $11742 - 4054 = 7688$ (B) · $8604 - 153 = 8451$ (P) · $12603 - 3726 = 8877$ (U) · $4895 - 1555 = 3340$ (N) · $7189 - 2298 = 4891$ (O) · $4691 - 2299 = 2392$ (C)

Clue 3 (Skip counting): "A LOUD SQUEAKY SHOE RUINED THEIR ESCAPE"

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

Clue 4 (Rounding): "SHORN STRANDS OF A BLUNT BOB CUT WERE FOUND"

Round 7,361 to the nearest thousand = 7000 (S) · Round 4,643 to the nearest thousand = 5000 (U) · Round 2,341 to the nearest hundred = 2300 (D) · Round 267 to the nearest hundred = 300 (H) · Round 886 to the nearest hundred = 900 (T) · Round 1,074 to the nearest hundred = 1100 (A) · Round 228 to the nearest ten = 230 (L) · Round 1,719 to the nearest hundred = 1700 (B) · Round 203 to the nearest hundred = 200 (F) · Round 54 to the nearest ten = 50 (R) · Round 1,316 to the nearest hundred = 1300 (E) · Round 544 to the nearest hundred = 500 (O) · Round 126 to the nearest ten = 130 (C) · Round 169 to the nearest ten = 170 (N) · Round 26 to the nearest ten = 30 (W)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Karlie

$60 \div 6 = 10$ · $16 \div 2 = 8$ · $60 \div 5 = 12$ · $30 \div 6 = 5$ · $90 \div 10 = 9$ · $28 \div 7 = 4$ · $84 \div 12 = 7$ · $55 \div 5 = 11$ · $4 \div 4 = 1$ · $72 \div 12 = 6$ · $30 \div 10 = 3$