



The Starlight Arcade Mystery

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

Detective: _____ Date: _____

Someone snuck into the Starlight Arcade after closing and swapped the Golden Joystick trophy for a fake! Solve the math clues to uncover which suspect committed the caper.

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 Arcade Phantom is _____

Possible suspects

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

NAME	SPECIAL GADGET	ARCADE SNACK	STANCE	CAP COLOR	DISTRACTION
Bella	grapple beam	nacho chip	right handed	blue cap	shiny coin
Roman	turbo boots	sour gummie	right handed	red cap	shiny coin
Eva	neon visor	cotton candy	right handed	red cap	squeaky toy
Winnie	laser ring	cotton candy	left handed	green cap	loud whistle
Sam	power glove	pizza slice	left handed	red cap	loud whistle
Gabe	grapple beam	cotton candy	left handed	red cap	shiny coin
Donnie	grapple beam	salty popcorn	right handed	blue cap	shiny coin
Nora	neon visor	pizza slice	right handed	blue cap	shiny coin
Leo	neon visor	cotton candy	left handed	green cap	squeaky toy
Kailynn	laser ring	sour gummie	right handed	blue cap	shiny coin
Eli	laser ring	cotton candy	right handed	green cap	squeaky toy
Mari	turbo boots	nacho chip	right handed	blue cap	loud whistle
Mia	grapple beam	salty popcorn	right handed	green cap	shiny coin
Owen	grapple beam	sour gummie	left handed	red cap	squeaky toy
Jax	power glove	sour gummie	left handed	blue cap	shiny coin
Lucia	neon visor	sour gummie	left handed	green cap	loud whistle
Ivy	turbo boots	sour gummie	right handed	blue cap	squeaky toy
Maya	power glove	cotton candy	right handed	red cap	shiny coin
Ruby	neon visor	sour gummie	right handed	green cap	shiny coin
Ryan	neon visor	nacho chip	right handed	blue cap	shiny coin
Kai	power glove	pizza slice	right handed	blue cap	loud whistle

Rounding

The score monitor rounds ticket totals to the nearest hundred to track the crowd.

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

The diagram shows 15 groups of people, each represented by a box. The groups are arranged in two rows. The first row has 10 groups, and the second row has 5 groups. The groups are labeled with their respective values: 2900, 110, 5000, 200, 3000, 900, 900, 370, 3000, 30, 20, 3000, 20, 30, 90, 2900, 5000, 370, 2900. The groups with values 2900, 2900, and 2900 are shaded orange and labeled 'T'.

Round 2,863 to the nearest hundred $\rightarrow$ **T**

Round 290 to the nearest ten $\rightarrow$ **Z**

Round 1,327 to the nearest hundred $\rightarrow$ **S**

Round 368 to the nearest ten $\rightarrow$ **A**

Round 166 to the nearest hundred $\rightarrow$ **V**

Round 110 to the nearest ten $\rightarrow$ **H**

Round 17 to the nearest ten $\rightarrow$ **D**

Round 26 to the nearest ten → **N**

Round 89 to the nearest ten $\rightarrow$ **0**

Round 2,805 to the nearest thousand →

Round 5,405 to the nearest thousand → **E**

Round 879 to the nearest hundred $\rightarrow$ **L**

Round 51 to the nearest ten $\rightarrow$ **P**

Round 278 to the nearest hundred $\rightarrow$ **C**

Scratch space:

CLUE 2 Addition

Detective Ryan added up all the prize tickets found near the arcade machines.

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

T									T						T					
5067	5836	7703	9214	7883	9214	4835	7703	9529	5067	7883	9214	7703	9181	5067	5836	7703	6964	6090		

				T					T						T	
6090	6964	9664	5836	5067	5836	3594	6247	9181	5067	6238	9664	6090	3594	3554	6964	5067

$3320 + 1747 = \square \rightarrow \boxed{\text{T}}$	$2268 + 3979 = \square \rightarrow \boxed{\text{N}}$	$2495 + 4469 = \square \rightarrow \boxed{\text{I}}$
$2409 + 2426 = \square \rightarrow \boxed{\text{P}}$	$4074 + 3629 = \square \rightarrow \boxed{\text{E}}$	$4820 + 4709 = \square \rightarrow \boxed{\text{C}}$
$3967 + 2123 = \square \rightarrow \boxed{\text{R}}$	$3543 + 4340 = \square \rightarrow \boxed{\text{U}}$	$5471 + 3743 = \square \rightarrow \boxed{\text{S}}$
$2500 + 1094 = \square \rightarrow \boxed{\text{A}}$	$1520 + 2034 = \square \rightarrow \boxed{\text{B}}$	$2538 + 3298 = \square \rightarrow \boxed{\text{H}}$
$3548 + 5633 = \square \rightarrow \boxed{\text{D}}$	$3943 + 2295 = \square \rightarrow \boxed{\text{O}}$	$6259 + 3405 = \square \rightarrow \boxed{\text{G}}$

Scratch space:

CLUE 3

Subtraction

Detective Gabe subtracted the missing game tokens from the main register.

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

A											A						
2157	7684	4002	8096	7219	7795	3895	7323	8096	7219	7517	2157	8733	6904	4363	4002	6904	
											A						
7684	4289	7684	8955	6904	3895	4363	7684	4363	7323	8955	2157	7219	8733	2016	7323	7323	7610

$6883 - 4726 = \boxed{} \rightarrow \boxed{\text{A}}$

$8943 - 1426 = \boxed{} \rightarrow \boxed{\text{M}}$

$10539 - 2443 = \boxed{} \rightarrow \boxed{\text{I}}$

$11064 - 4160 = \boxed{} \rightarrow \boxed{\text{E}}$

$10465 - 3142 = \boxed{} \rightarrow \boxed{\text{O}}$

$8386 - 4023 = \boxed{} \rightarrow \boxed{\text{T}}$

$8055 - 3766 = \boxed{} \rightarrow \boxed{\text{U}}$

$8344 - 660 = \boxed{} \rightarrow \boxed{\text{S}}$

$13262 - 4529 = \boxed{} \rightarrow \boxed{\text{D}}$

$4758 - 756 = \boxed{} \rightarrow \boxed{\text{H}}$

$8895 - 1285 = \boxed{} \rightarrow \boxed{\text{K}}$

$4717 - 2701 = \boxed{} \rightarrow \boxed{\text{L}}$

$7821 - 3926 = \boxed{} \rightarrow \boxed{\text{C}}$

$10459 - 2664 = \boxed{} \rightarrow \boxed{\text{Y}}$

$10421 - 3202 = \boxed{} \rightarrow \boxed{\text{N}}$

$11798 - 2843 = \boxed{} \rightarrow \boxed{\text{P}}$

Scratch space:

Multiplication facts (1-12)

Detective Kailynn counted rows of claw machines to check for hidden clues.

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

A												A			A			
33	110	9	50	10	64	70	110	16	18	100	66	33	55	90	33	4		
									A									
7	9	44	55	55	100	7	144	100	33	9	70	64	100	55	9	50	42	100

$11 \times 3 = \square \rightarrow \mathbf{A}$

$7 \times 10 = \square \rightarrow \boxed{\text{T}}$

$11 \times 5 = \boxed{} \rightarrow \boxed{\text{P}}$

$$7 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{Z}}$$

$4 \times 4 = \boxed{} \rightarrow \boxed{\text{L}}$

$1 \times 4 = \boxed{} \rightarrow \boxed{\mathbf{S}}$

$10 \times 10 = \boxed{} \rightarrow \boxed{\text{E}}$

$8 \times 8 = \boxed{} \rightarrow \boxed{\text{H}}$

$11 \times 6 = \square \rightarrow \mathbf{C}$

$9 \times 10 = \square \rightarrow \boxed{\mathbf{W}}$

$5 \times 10 =$ $\rightarrow$

$1 \times 7 = \square \rightarrow \boxed{\mathbf{D}}$

$11 \times 4 = \boxed{} \rightarrow \boxed{0}$

$3 \times 3 = \boxed{} \rightarrow \boxed{\mathbf{R}}$

$1 \times 10 = \square \rightarrow \boxed{\mathbf{G}}$

$11 \times 10 = \square \rightarrow \boxed{\mathbf{B}}$

$12 \times 12 = \square \rightarrow \boxed{\mathbf{N}}$

$$3 \times 6 = \boxed{} \rightarrow \boxed{\text{U}}$$

Scratch space:

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

Detective Roman split the suspect cards evenly among the team to review them.

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:

$40 \div 4 = \boxed{}$

$132 \div 12 = \boxed{}$

$64 \div 8 = \boxed{}$

$36 \div 6 = \boxed{}$

$84 \div 7 = \boxed{}$

$8 \div 2 = \boxed{}$

$9 \div 1 = \boxed{}$

$3 \div 3 = \boxed{}$

$50 \div 10 = \boxed{}$

$35 \div 5 = \boxed{}$

$24 \div 8 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scanned the high score, then spilled some salty popcorn.
2. The villain swung from the ceiling light, then spilled some salty popcorn.
3. The villain scanned the high score, then left behind a pizza slice.
4. The villain swung from the ceiling light, then dropped a sour gummie.
5. The villain boosted across the room, then dropped a sour gummie.
6. The villain boosted across the room, then crushed a nacho chip.
7. The villain punched the prize button, then crushed a nacho chip.
8. The villain swung from the ceiling light, then crushed a nacho chip.
9. The villain zapped the game console, then spilled some salty popcorn.
10. The villain zapped the game console, then dropped a sour gummie.
11. The villain scanned the high score, then crushed a nacho chip.
12. The villain zapped the game console, then crushed a nacho chip.

Answer Key

The Starlight Arcade Mystery

Culprit: Donnie

grapple beam · salty popcorn · right handed · blue cap · shiny coin

Trail: Start 21 → Clue 1 18 → Clue 2 12 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DID NOT EAT A PIZZA SLICE"

Round 2,863 to the nearest hundred = 2900 (T) · Round 290 to the nearest ten = 290 (Z) · Round 1,327 to the nearest hundred = 1300 (S) · Round 368 to the nearest ten = 370 (A) · Round 166 to the nearest hundred = 200 (V) · Round 110 to the nearest ten = 110 (H) · Round 17 to the nearest ten = 20 (D) · Round 26 to the nearest ten = 30 (N) · Round 89 to the nearest ten = 90 (O) · Round 2,805 to the nearest thousand = 3000 (I) · Round 5,405 to the nearest thousand = 5000 (E) · Round 879 to the nearest hundred = 900 (L) · Round 51 to the nearest ten = 50 (P) · Round 278 to the nearest hundred = 300 (C)

Clue 2 (Addition): "THE SUSPECT USED THEIR RIGHT HAND TO GRAB IT"

$3320 + 1747 = 5067$ (T) · $2268 + 3979 = 6247$ (N) · $2495 + 4469 = 6964$ (I) · $2409 + 2426 = 4835$ (P) · $4074 + 3629 = 7703$ (E) · $4820 + 4709 = 9529$ (C) · $3967 + 2123 = 6090$ (R) · $3543 + 4340 = 7883$ (U) · $5471 + 3743 = 9214$ (S) · $2500 + 1094 = 3594$ (A) · $1520 + 2034 = 3554$ (B) · $2538 + 3298 = 5836$ (H) · $3548 + 5633 = 9181$ (D) · $3943 + 2295 = 6238$ (O) · $6259 + 3405 = 9664$ (G)

Clue 3 (Subtraction): "A SHINY COIN MADE THE SUSPECT STOP AND LOOK"

$6883 - 4726 = 2157$ (A) · $8943 - 1426 = 7517$ (M) · $10539 - 2443 = 8096$ (I) · $11064 - 4160 = 6904$ (E) · $10465 - 3142 = 7323$ (O) · $8386 - 4023 = 4363$ (T) · $8055 - 3766 = 4289$ (U) · $8344 - 660 = 7684$ (S) · $13262 - 4529 = 8733$ (D) · $4758 - 756 = 4002$ (H) · $8895 - 1285 = 7610$ (K) · $4717 - 2701 = 2016$ (L) · $7821 - 3926 = 3895$ (C) · $10459 - 2664 = 7795$ (Y) · $10421 - 3202 = 7219$ (N) · $11798 - 2843 = 8955$ (P)

Clue 4 (Multiplication facts (1-12)): "A BRIGHT BLUE CAP WAS DROPPED NEAR THE PRIZE"

$11 \times 3 = 33$ (A) · $7 \times 10 = 70$ (T) · $11 \times 5 = 55$ (P) · $7 \times 6 = 42$ (Z) · $4 \times 4 = 16$ (L) · $1 \times 4 = 4$ (S) · $10 \times 10 = 100$ (E) · $8 \times 8 = 64$ (H) · $11 \times 6 = 66$ (C) · $9 \times 10 = 90$ (W) · $5 \times 10 = 50$ (I) · $1 \times 7 = 7$ (D) · $11 \times 4 = 44$ (O) · $3 \times 3 = 9$ (R) · $1 \times 10 = 10$ (G) · $11 \times 10 = 110$ (B) · $12 \times 12 = 144$ (N) · $3 \times 6 = 18$ (U)

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

$40 \div 4 = 10$ · $132 \div 12 = 11$ · $64 \div 8 = 8$ · $36 \div 6 = 6$ · $84 \div 7 = 12$ · $8 \div 2 = 4$ · $9 \div 1 = 9$ · $3 \div 3 = 1$ · $50 \div 10 = 5$ · $35 \div 5 = 7$ · $24 \div 8 = 3$