



The Midnight Grand Prix Sabotage

Grade 6 math · Fractions of a number, Percentages, Exponents, Order of operations · Reading level grades 5-6

Detective: _____ Date: _____

Someone tampered with the championship trophy at Apex Speedway just hours before the final race!

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 Saboteur is _____

Possible suspects

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

NAME	ENGINE SPEC	BODY MOD	STEERING STYLE	DRIVER HAIRSTYLE	TRACK HAZARD
Ayrton Swift	Nitro Boost	Neon Underglow	Right-handed Driver	Curly Afro	Banana Peels
Dale Driftwood	Turbo Charger	Rear Spoiler	Left-handed Driver	Long Ponytail	Oil Slicks
Carlos Apex	Turbo Charger	Flame Exhaust	Right-handed Driver	Curly Afro	Banana Peels
Lando Lane	Electric Drive	Neon Underglow	Right-handed Driver	Curly Afro	Puddle Traps
Seb Slick	Supercharger	Wheel Spikes	Right-handed Driver	Curly Afro	Banana Peels
Charles Circuit	Twin Engine	Rear Spoiler	Left-handed Driver	Buzz Cut	Puddle Traps
Valtteri Velocity	Nitro Boost	Carbon Fiber Hood	Right-handed Driver	Curly Afro	Puddle Traps
Nico Nitro	Nitro Boost	Carbon Fiber Hood	Left-handed Driver	Curly Afro	Puddle Traps
Lewis Lapper	Twin Engine	Flame Exhaust	Right-handed Driver	Curly Afro	Puddle Traps
Pierre Pit	Supercharger	Flame Exhaust	Left-handed Driver	Long Ponytail	Banana Peels
Sergio Shift	Twin Engine	Wheel Spikes	Right-handed Driver	Long Ponytail	Puddle Traps
Lance Lap	Turbo Charger	Carbon Fiber Hood	Left-handed Driver	Buzz Cut	Banana Peels
Zhou Zip	Electric Drive	Flame Exhaust	Right-handed Driver	Long Ponytail	Banana Peels
Kevin Kart	Nitro Boost	Rear Spoiler	Left-handed Driver	Buzz Cut	Puddle Traps
Alexander Axle	Supercharger	Carbon Fiber Hood	Right-handed Driver	Long Ponytail	Banana Peels
Yuki Yard	Nitro Boost	Wheel Spikes	Left-handed Driver	Curly Afro	Oil Slicks
Fernando Fast	Twin Engine	Neon Underglow	Left-handed Driver	Long Ponytail	Oil Slicks
Mario Speedwagon	Nitro Boost	Neon Underglow	Right-handed Driver	Curly Afro	Puddle Traps
Esteban Engine	Supercharger	Flame Exhaust	Right-handed Driver	Buzz Cut	Puddle Traps
Danica Dash	Twin Engine	Rear Spoiler	Right-handed Driver	Curly Afro	Puddle Traps
Max Vroom	Nitro Boost	Rear Spoiler	Right-handed Driver	Long Ponytail	Oil Slicks

CLUE 1

Fractions of a number

The pit crew calculated what fraction of the spare tires were still intact after the night shift.

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

T																T
14	37	15	23	16	3	3	39	16	27	17	11	15	7	27	11	14

37	39	23	15	39	6	15	39	6	7	29	11	16	3	15	6	

$$7/10 \text{ of } 20 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$2/6 \text{ of } 87 = \boxed{} \rightarrow \boxed{\text{P}}$$

$$2/6 \text{ of } 111 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3/6 \text{ of } 14 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$1/2 \text{ of } 22 = \boxed{} \rightarrow \boxed{\text{O}}$$

$$3/8 \text{ of } 72 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$3/4 \text{ of } 4 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$3/4 \text{ of } 8 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$1/6 \text{ of } 138 = \boxed{} \rightarrow \boxed{\text{V}}$$

$$4/8 \text{ of } 34 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$6/8 \text{ of } 20 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$2/10 \text{ of } 195 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$2/6 \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{I}}$$

Scratch space:

CLUE 2 Percentages

A sensor report showed the percentage of fuel remaining in the speedway storage tanks.

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

T					T														T
36	15	19	27	43	36	11	19	9	9	9	45	27	45	32	43	25	15	36	

15	45	11	12	19	12	12	32	43	26	19	32

$60\% \text{ of } 60 = \square \rightarrow \boxed{\text{T}}$

$5\% \text{ of } 500 = \square \rightarrow \boxed{\text{G}}$

$40\% \text{ of } 80 = \square \rightarrow \boxed{\text{R}}$

$25\% \text{ of } 180 = \square \rightarrow \boxed{\text{A}}$

$50\% \text{ of } 24 = \square \rightarrow \boxed{\text{D}}$

$5\% \text{ of } 860 = \square \rightarrow \boxed{\text{I}}$

$60\% \text{ of } 45 = \square \rightarrow \boxed{\text{W}}$

$60\% \text{ of } 25 = \square \rightarrow \boxed{\text{H}}$

$75\% \text{ of } 12 = \square \rightarrow \boxed{\text{S}}$

$20\% \text{ of } 130 = \square \rightarrow \boxed{\text{V}}$

$5\% \text{ of } 220 = \square \rightarrow \boxed{\text{N}}$

$50\% \text{ of } 38 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 3

Exponents

The telemetric computer analyzed lap speeds using powers of gear ratios.

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

T										T								
100	225	121	256	169	243	125	169	81	81	100	25	216	216	121	32	36	128	

						T				
216	64	32	32	361	121	100	243	169	216	81

$10^2 = \square \rightarrow \boxed{\text{T}}$

$5^3 = \square \rightarrow \boxed{\text{W}}$

$3^5 = \square \rightarrow \boxed{\text{R}}$

$19^2 = \square \rightarrow \boxed{\text{L}}$

$6^2 = \square \rightarrow \boxed{\text{B}}$

$11^2 = \square \rightarrow \boxed{\text{E}}$

$4^3 = \square \rightarrow \boxed{\text{U}}$

$9^2 = \square \rightarrow \boxed{\text{S}}$

$6^3 = \square \rightarrow \boxed{\text{P}}$

$2^5 = \square \rightarrow \boxed{\text{D}}$

$2^7 = \square \rightarrow \boxed{\text{Y}}$

$13^2 = \square \rightarrow \boxed{\text{A}}$

$16^2 = \square \rightarrow \boxed{\text{C}}$

$15^2 = \square \rightarrow \boxed{\text{H}}$

$5^2 = \square \rightarrow \boxed{\text{O}}$

Scratch space:

Order of operations

The Chief Mechanic evaluated a multi step formula to calculate total track penalty points.

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

Diagram illustrating a 2D array structure with 2 rows and 15 columns. The values are as follows:

E				E			E							
10	67	19	45	10	36	28	10	50	8	12	62	50	77	45
62	19	71	8	77	28	75	41	76	29	77	72	41	12	

$$4 + 2 \times 3 = \boxed{} \rightarrow \boxed{\mathbf{E}}$$

$12 \times 5 - 15 = \boxed{} \rightarrow \boxed{\text{D}}$

$$8 + 2 \times 2 = \boxed{} \rightarrow \boxed{0}$$

$$34 + 4 \times 7 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$48 + 3 \times 8 = \boxed{} \rightarrow \boxed{\text{F}}$$

$$5 \times 8 - 21 = \boxed{} \rightarrow \boxed{1}$$

$$9 \times 11 - 28 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$8 \times 6 - 7 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$9 \times 5 - 9 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$9 \times 5 - 16 = \boxed{} \rightarrow \boxed{\text{Y}}$$

$$51 + 2 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$62 + 5 \times 3 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$10 + 8 \times 5 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$7 \times 4 - 20 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3 \times 11 - 5 = \boxed{} \rightarrow \boxed{\text{C}}$$

$10 \times 8 - 4 = \boxed{} \rightarrow \boxed{\text{L}}$

$$12 \times 8 - 21 = \boxed{} \rightarrow \boxed{\text{U}}$$

Scratch space:

CLUE 5**Fractions of a number - the last clue**

The security team checked what fraction of total track cameras captured a clear image.

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:

$3/10 \text{ of } 40 = \boxed{}$

$1/4 \text{ of } 12 = \boxed{}$

$1/8 \text{ of } 56 = \boxed{}$

$2/4 \text{ of } 4 = \boxed{}$

$1/10 \text{ of } 40 = \boxed{}$

$3/5 \text{ of } 10 = \boxed{}$

$1/4 \text{ of } 4 = \boxed{}$

$2/6 \text{ of } 30 = \boxed{}$

$8/10 \text{ of } 10 = \boxed{}$

$3/6 \text{ of } 10 = \boxed{}$

$1/2 \text{ of } 22 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain switched on turbo charger, then deployed wheel spikes.
2. The villain switched on turbo charger, then flexed the carbon fiber hood.
3. The villain activated nitro boost, then lit up neon underglow.
4. The villain revved the supercharger, then flexed the carbon fiber hood.
5. The villain fired up twin engine, then flexed the carbon fiber hood.
6. The villain fired up twin engine, then lit up neon underglow.
7. The villain activated nitro boost, then flexed the carbon fiber hood.
8. The villain activated nitro boost, then blasted flame exhaust.
9. The villain engaged electric drive, then lit up neon underglow.
10. The villain fired up twin engine, then adjusted the rear spoiler.
11. The villain engaged electric drive, then deployed wheel spikes.
12. The villain fired up twin engine, then blasted flame exhaust.

Answer Key

The Midnight Grand Prix Sabotage

Culprit: Lando Lane

Electric Drive · Neon Underglow · Right-handed Driver · Curly Afro · Puddle Traps

Trail: Start 21 → Clue 1 16 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT HAVE A REAR SPOILER"

$7/10$ of 20 = 14 (T) · $2/6$ of 87 = 29 (P) · $2/6$ of 111 = 37 (H) · $3/6$ of 14 = 7 (S) · $1/2$ of 22 = 11 (O) · $3/8$ of 72 = 27 (N) · $3/4$ of 4 = 3 (L) · $3/4$ of 8 = 6 (R) · $1/6$ of 138 = 23 (V) · $4/8$ of 34 = 17 (D) · $6/8$ of 20 = 15 (E) · $2/10$ of 195 = 39 (A) · $2/6$ of 48 = 16 (I)

Clue 2 (Percentages): "THE WITNESS SAW A RIGHT HANDED DRIVER"

60% of 60 = 36 (T) · 5% of 500 = 25 (G) · 40% of 80 = 32 (R) · 25% of 180 = 45 (A) · 50% of 24 = 12 (D) · 5% of 860 = 43 (I) · 60% of 45 = 27 (W) · 60% of 25 = 15 (H) · 75% of 12 = 9 (S) · 20% of 130 = 26 (V) · 5% of 220 = 11 (N) · 50% of 38 = 19 (E)

Clue 3 (Exponents): "THE CAR WAS STOPPED BY PUDDLE TRAPS"

$10^2 = 100$ (T) · $5^3 = 125$ (W) · $3^5 = 243$ (R) · $19^2 = 361$ (L) · $6^2 = 36$ (B) · $11^2 = 121$ (E) · $4^3 = 64$ (U) · $9^2 = 81$ (S) · $6^3 = 216$ (P) · $2^5 = 32$ (D) · $2^7 = 128$ (Y) · $13^2 = 169$ (A) · $16^2 = 256$ (C) · $15^2 = 225$ (H) · $5^2 = 25$ (O)

Clue 4 (Order of operations): "EVIDENCE SHOWS A DRIVER WITH A CURLY AFRO"

$4 + 2 \times 3 = 10$ (E) · $12 \times 5 - 15 = 45$ (D) · $8 + 2 \times 2 = 12$ (O) · $34 + 4 \times 7 = 62$ (W) · $48 + 3 \times 8 = 72$ (F) · $5 \times 8 - 21 = 19$ (I) · $9 \times 11 - 28 = 71$ (T) · $8 \times 6 - 7 = 41$ (R) · $9 \times 5 - 9 = 36$ (N) · $9 \times 5 - 16 = 29$ (Y) · $51 + 2 \times 8 = 67$ (V) · $62 + 5 \times 3 = 77$ (A) · $10 + 8 \times 5 = 50$ (S) · $7 \times 4 - 20 = 8$ (H) · $3 \times 11 - 5 = 28$ (C) · $10 \times 8 - 4 = 76$ (L) · $12 \times 8 - 21 = 75$ (U)

Clue 5 (Fractions of a number): surviving statement is box 9 → Lando Lane

$3/10$ of 40 = 12 · $1/4$ of 12 = 3 · $1/8$ of 56 = 7 · $2/4$ of 4 = 2 · $1/10$ of 40 = 4 · $3/5$ of 10 = 6 · $1/4$ of 4 = 1 · $2/6$ of 30 = 10 · $8/10$ of 10 = 8 · $3/6$ of 10 = 5 · $1/2$ of 22 = 11