The Great Construction Cat Mystery

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

Detective: _____ **Date:** _____

Someone hijacked a massive feline construction machine and scrambled the blueprints for the new playground! Solve the math clues to identify which operator caused the chaos before quitting time.

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 rogue cat machine operator is _____

Possible suspects

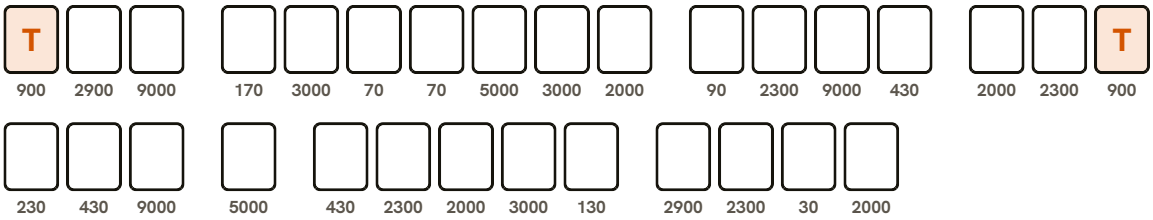
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY ATTACHMENT	SPECIAL SYSTEM	CONTROL PREFERENCE	CHASSIS COLOR	MECHANICAL SNAG
Sam Sprocket	Bulldozer Blade	Hydraulic Leap	Left Lever Control	Neon Yellow Paint	Loose Bolts
Felix Fender	Bulldozer Blade	Sonic Horn	Right Lever Control	Bright Blue Paint	Muddy Treads
Barnaby Bolt	Excavator Scoop	Laser Level	Right Lever Control	Metallic Orange Paint	Spilled Grease
Piper Piston	Wrecking Paw	Magnet Winch	Left Lever Control	Metallic Orange Paint	Spilled Grease
Mia Mudflap	Crane Hook	Sonic Horn	Left Lever Control	Metallic Orange Paint	Spilled Grease
Oliver Oilcan	Trench Digger	Magnet Winch	Left Lever Control	Bright Blue Paint	Spilled Grease
Leo Loader	Excavator Scoop	Magnet Winch	Left Lever Control	Neon Yellow Paint	Spilled Grease
Bruno Bulldozer	Wrecking Paw	Magnet Winch	Right Lever Control	Neon Yellow Paint	Spilled Grease
Whiskers Wrench	Crane Hook	Magnet Winch	Right Lever Control	Neon Yellow Paint	Loose Bolts
Jasper Jackhammer	Trench Digger	Turbo Tread	Left Lever Control	Neon Yellow Paint	Spilled Grease
Clara Caterpillar	Trench Digger	Laser Level	Right Lever Control	Neon Yellow Paint	Muddy Treads
Cleo Crane	Wrecking Paw	Magnet Winch	Right Lever Control	Neon Yellow Paint	Muddy Treads
Gasket Gus	Trench Digger	Hydraulic Leap	Left Lever Control	Bright Blue Paint	Loose Bolts
Victor Valve	Wrecking Paw	Laser Level	Left Lever Control	Neon Yellow Paint	Loose Bolts
Allie Axle	Wrecking Paw	Sonic Horn	Left Lever Control	Metallic Orange Paint	Loose Bolts
Tabby Treads	Wrecking Paw	Magnet Winch	Left Lever Control	Neon Yellow Paint	Spilled Grease
Grease Paw Gary	Excavator Scoop	Hydraulic Leap	Left Lever Control	Neon Yellow Paint	Spilled Grease
Hazel Hydraulics	Wrecking Paw	Magnet Winch	Right Lever Control	Metallic Orange Paint	Loose Bolts
Kit Katerpillar	Excavator Scoop	Sonic Horn	Left Lever Control	Neon Yellow Paint	Spilled Grease
Frank Fuel	Trench Digger	Laser Level	Left Lever Control	Bright Blue Paint	Muddy Treads
Evie Engine	Crane Hook	Magnet Winch	Left Lever Control	Bright Blue Paint	Muddy Treads

CLUE 1 Rounding

> The site security monitor rounds all output numbers to the nearest ten. Read the rounded display to clear the first lead.

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



Round 946 to the nearest hundred ☐ → **T**

Round 88 to the nearest ten ☐ → **D**

Round 426 to the nearest ten ☐ → **S**

Round 233 to the nearest ten ☐ → **U**

Round 8,916 to the nearest thousand ☐ → **E**

Round 73 to the nearest ten ☐ → **L**

Round 2,892 to the nearest hundred ☐ → **H**

Round 170 to the nearest ten ☐ → **V**

Round 3,203 to the nearest thousand ☐ → **I**

Round 2,294 to the nearest hundred ☐ → **O**

Round 4,656 to the nearest thousand ☐ → **A**

Round 1,771 to the nearest thousand ☐ → **N**

Round 129 to the nearest ten ☐ → **C**

Round 26 to the nearest ten ☐ → **R**

Scratch space:

CLUE 2 Addition

> Mechanic Whiskers tallied up all the spare copper pipes found near the job site. Add the totals together to unlock the second clue.

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



4561 + 3145 = ☐ → T	2820 + 1971 = ☐ → C	3114 + 1510 = ☐ → A
2493 + 3785 = ☐ → V	1566 + 2619 = ☐ → O	4665 + 3123 = ☐ → P
865 + 1265 = ☐ → U	2191 + 2789 = ☐ → R	1130 + 1685 = ☐ → N
2887 + 2098 = ☐ → H	2565 + 4323 = ☐ → K	5249 + 3738 = ☐ → E
4377 + 5401 = ☐ → F	3647 + 5882 = ☐ → Y	2842 + 3294 = ☐ → S
5298 + 3687 = ☐ → L	1302 + 2896 = ☐ → D	

Scratch space:

CLUE 3 Subtraction

> A stash of diesel cans was taken from the supply shed. Subtract the remaining cans from the start count to reveal clue three.

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



1820 - 204 = ☐ → **T**

6856 - 850 = ☐ → **D**

9418 - 707 = ☐ → **O**

3425 - 37 = ☐ → **Y**

8767 - 4518 = ☐ → **H**

9929 - 3476 = ☐ → **G**

7431 - 429 = ☐ → **I**

6836 - 1652 = ☐ → **S**

5836 - 170 = ☐ → **P**

9740 - 988 = ☐ → **E**

9259 - 1391 = ☐ → **V**

4228 - 244 = ☐ → **A**

5810 - 2828 = ☐ → **W**

9274 - 3679 = ☐ → **B**

9775 - 4391 = ☐ → **N**

8897 - 2642 = ☐ → **L**

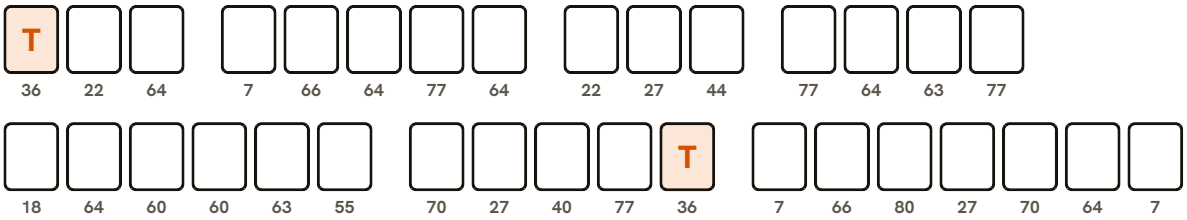
3818 - 1033 = ☐ → **R**

Scratch space:

CLUE 4 Multiplication facts (1-12)

> The crew arranged rows of heavy steel girders across the yard. Multiply the stacks to discover the fourth piece of evidence.

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



4 × 9 = ☐ → T	11 × 6 = ☐ → C	1 × 7 = ☐ → S
10 × 6 = ☐ → L	11 × 4 = ☐ → D	10 × 7 = ☐ → P
5 × 11 = ☐ → W	11 × 2 = ☐ → H	9 × 3 = ☐ → A
9 × 2 = ☐ → Y	8 × 10 = ☐ → R	10 × 4 = ☐ → I
7 × 9 = ☐ → O	8 × 8 = ☐ → E	7 × 11 = ☐ → N

Scratch space:

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

> The team split the gearboxes into equal crates for inspection. Divide the total parts to pinpoint the final mystery detail.

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:

84 ÷ 7 = ☐	12 ÷ 3 = ☐	90 ÷ 10 = ☐	40 ÷ 4 = ☐	77 ÷ 7 = ☐
40 ÷ 5 = ☐	48 ÷ 8 = ☐	20 ÷ 10 = ☐	3 ÷ 3 = ☐	60 ÷ 12 = ☐
28 ÷ 4 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain rammed the wrecking paw, then scanned with the laser level.
2. The villain pushed the bulldozer blade, then activated the turbo tread.
3. The villain rammed the wrecking paw, then grabbed with the magnet winch.
4. The villain swung the excavator scoop, then grabbed with the magnet winch.
5. The villain rammed the wrecking paw, then blared the sonic horn.
6. The villain hoisted the crane hook, then scanned with the laser level.
7. The villain carved with the trench digger, then engaged the hydraulic leap.
8. The villain pushed the bulldozer blade, then grabbed with the magnet winch.
9. The villain carved with the trench digger, then activated the turbo tread.
10. The villain hoisted the crane hook, then grabbed with the magnet winch.
11. The villain hoisted the crane hook, then engaged the hydraulic leap.
12. The villain swung the excavator scoop, then engaged the hydraulic leap.

TEACHER / PARENT

Answer Key

The Great Construction Cat Mystery

Culprit: Tabby Treads

Wrecking Paw · Magnet Winch · Left Lever Control · Neon Yellow Paint · Spilled Grease

Trail: Start 21 → Clue 1 17 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE VILLAIN DOES NOT USE A SONIC HORN"

Round 946 to the nearest hundred = 900 (T) · Round 88 to the nearest ten = 90 (D) · Round 426 to the nearest ten = 430 (S) · Round 233 to the nearest ten = 230 (U) · Round 8,916 to the nearest thousand = 9000 (E) · Round 73 to the nearest ten = 70 (L) · Round 2,892 to the nearest hundred = 2900 (H) · Round 170 to the nearest ten = 170 (V) · Round 3,203 to the nearest thousand = 3000 (I) · Round 2,294 to the nearest hundred = 2300 (O) · Round 4,656 to the nearest thousand = 5000 (A) · Round 1,771 to the nearest thousand = 2000 (N) · Round 129 to the nearest ten = 130 (C) · Round 26 to the nearest ten = 30 (R)

Clue 2 (Addition): "THE SNEAKY SUSPECT USED LEFT LEVER CONTROL"

4561 + 3145 = 7706 (T) · 2820 + 1971 = 4791 (C) · 3114 + 1510 = 4624 (A) · 2493 + 3785 = 6278 (V) · 1566 + 2619 = 4185 (O) · 4665 + 3123 = 7788 (P) · 865 + 1265 = 2130 (U) · 2191 + 2789 = 4980 (R) · 1130 + 1685 = 2815 (N) · 2887 + 2098 = 4985 (H) · 2565 + 4323 = 6888 (K) · 5249 + 3738 = 8987 (E) · 4377 + 5401 = 9778 (F) · 3647 + 5882 = 9529 (Y) · 2842 + 3294 = 6136 (S) · 5298 + 3687 = 8985 (L) · 1302 + 2896 = 4198 (D)

Clue 3 (Subtraction): "THE VILLAIN WAS STOPPED BY SPILLED GREASE"

1820 - 204 = 1616 (T) · 6856 - 850 = 6006 (D) · 9418 - 707 = 8711 (O) · 3425 - 37 = 3388 (Y) · 8767 - 4518 = 4249 (H) · 9929 - 3476 = 6453 (G) · 7431 - 429 = 7002 (I) · 6836 - 1652 = 5184 (S) · 5836 - 170 = 5666 (P) · 9740 - 988 = 8752 (E) · 9259 - 1391 = 7868 (V) · 4228 - 244 = 3984 (A) · 5810 - 2828 = 2982 (W) · 9274 - 3679 = 5595 (B) · 9775 - 4391 = 5384 (N) · 8897 - 2642 = 6255 (L) · 3818 - 1033 = 2785 (R)

Clue 4 (Multiplication facts (1-12)): "THE SCENE HAD NEON YELLOW PAINT SCRAPES"

4 × 9 = 36 (T) · 11 × 6 = 66 (C) · 1 × 7 = 7 (S) · 10 × 6 = 60 (L) · 11 × 4 = 44 (D) · 10 × 7 = 70 (P) · 5 × 11 = 55 (W) · 11 × 2 = 22 (H) · 9 × 3 = 27 (A) · 9 × 2 = 18 (Y) · 8 × 10 = 80 (R) · 10 × 4 = 40 (I) · 7 × 9 = 63 (O) · 8 × 8 = 64 (E) · 7 × 11 = 77 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 3 → Tabby Treads

84 ÷ 7 = 12 · 12 ÷ 3 = 4 · 90 ÷ 10 = 9 · 40 ÷ 4 = 10 · 77 ÷ 7 = 11 · 40 ÷ 5 = 8 · 48 ÷ 8 = 6 · 20 ÷ 10 = 2 · 3 ÷ 3 = 1 · 60 ÷ 12 = 5 · 28 ÷ 4 = 7