The Great Robo-Cat Heist

Grade 7 math · Place value, Multi-step word problems, Addition, Subtraction, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

Oh no! A sneaky rogue Robo-Cat has broken into the Meow-Tech Robotics Lab and snatched the Golden Tuna Microchip! The Chief Inventor needs your help. We must trace the clues and use our math-decoding sensors to find out which of the city's metal felines is the culprit!

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 Meow-Bot Outlaw is _____

Possible suspects

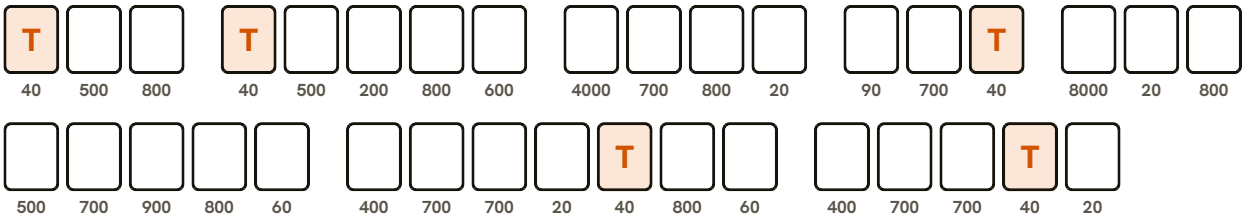
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY PROGRAM	SPECIAL GADGET	LASER LIGHT COLOR	METAL FUR COAT	GLITCH TRIGGER
Widget whiskers	Rocket Paws Jetting	Magnetic Tail Grip	Green Eye LED	Silver Chrome Plate	Water Sprinklers
Circuit Felix	Hologram Mouse Projection	Solar Panel Ears	Blue Eye LED	Rusty Copper Mesh	Water Sprinklers
Zinc Ziggy	Super Sonic Meow	Hover Booster Boots	Green Eye LED	Rusty Copper Mesh	Water Sprinklers
Pixel Paw	Hologram Mouse Projection	Night Vision Scanners	Blue Eye LED	Silver Chrome Plate	Squeaky Toy Sound
Byte Bob	Hologram Mouse Projection	Solar Panel Ears	Blue Eye LED	Gold Brass Wire	Strong Magnet Waves
Micro Milo	Hologram Mouse Projection	Metal Claw Drill	Blue Eye LED	Gold Brass Wire	Water Sprinklers
Vector Vixen	Yarn Ball Launcher	Metal Claw Drill	Blue Eye LED	Rusty Copper Mesh	Water Sprinklers
Bolt Boots	Super Sonic Meow	Night Vision Scanners	Green Eye LED	Rusty Copper Mesh	Water Sprinklers
Sprocket Purr	Laser Pointer Beam	Hover Booster Boots	Blue Eye LED	Rusty Copper Mesh	Water Sprinklers
Gizmo Garfield	Super Sonic Meow	Magnetic Tail Grip	Blue Eye LED	Gold Brass Wire	Squeaky Toy Sound
Pliers Pixie	Super Sonic Meow	Metal Claw Drill	Blue Eye LED	Rusty Copper Mesh	Squeaky Toy Sound
Sparky Simba	Super Sonic Meow	Metal Claw Drill	Blue Eye LED	Silver Chrome Plate	Squeaky Toy Sound
Rusty Claw	Hologram Mouse Projection	Hover Booster Boots	Green Eye LED	Gold Brass Wire	Squeaky Toy Sound
Silicon Sylvester	Super Sonic Meow	Hover Booster Boots	Blue Eye LED	Rusty Copper Mesh	Squeaky Toy Sound
Copper Cleo	Super Sonic Meow	Night Vision Scanners	Blue Eye LED	Silver Chrome Plate	Strong Magnet Waves
Meow-tron	Yarn Ball Launcher	Magnetic Tail Grip	Blue Eye LED	Rusty Copper Mesh	Water Sprinklers
Alloy Oliver	Super Sonic Meow	Magnetic Tail Grip	Green Eye LED	Silver Chrome Plate	Strong Magnet Waves
Turbo Tom	Laser Pointer Beam	Magnetic Tail Grip	Blue Eye LED	Silver Chrome Plate	Strong Magnet Waves
Giga George	Laser Pointer Beam	Metal Claw Drill	Green Eye LED	Silver Chrome Plate	Water Sprinklers
Radar Romeo	Yarn Ball Launcher	Solar Panel Ears	Green Eye LED	Rusty Copper Mesh	Water Sprinklers
Cyber Mittens	Rocket Paws Jetting	Metal Claw Drill	Blue Eye LED	Rusty Copper Mesh	Water Sprinklers

CLUE 1 Place value

> We found a locked computer terminal. The passcode screen shows a huge number, but the security chip only reads the digit in the thousands place.

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



What is the value of the 4 in 39,542? ☐ → **T**

What is the value of the 9 in 67,297? ☐ → **N**

What is the value of the 8 in 46,825? ☐ → **E**

What is the value of the 5 in 667,522? ☐ → **H**

What is the value of the 2 in 365,250? ☐ → **I**

What is the value of the 2 in 135,126? ☐ → **S**

What is the value of the 7 in 16,745? ☐ → **O**

What is the value of the 4 in 96,426? ☐ → **B**

What is the value of the 8 in 28,521? ☐ → **U**

What is the value of the 9 in 412,954? ☐ → **V**

What is the value of the 4 in 834,005? ☐ → **D**

What is the value of the 6 in 497,262? ☐ → **R**

What is the value of the 6 in 53,600? ☐ → **F**

Scratch space:

CLUE 2 Multi-step word problems

> We checked the inventory logs. To find out how many spare screws are missing, we must combine the heavy boxes and subtract the empty ones.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

B										
35	40	55	38	38	68	38	40	38	67	

.

Robo-Kitten earned 6 shiny cog in each of 3 rounds, plus 27 bonus shiny cog. Then 10 shiny cog were lost. How many shiny cog are left?

Answer: ☐ → **B**

Robo-Kitten collected 19 copper wire in the morning and 146 copper wire in the afternoon, then split them equally among 3 The Alley-Bot Patrol. How many copper wire did each get?

Answer: ☐ → **U**

Robo-Kitten collected 190 battery pack in the morning and 38 battery pack in the afternoon, then split them equally among 6 The Alley-Bot Patrol. How many battery pack did each get?

Answer: ☐ → **E**

Robo-Kitten collected 106 copper wire in the morning and 234 copper wire in the afternoon, then split them equally among 5 The Alley-Bot Patrol. How many copper wire did each get?

Answer: ☐ → **Y**

There were 222 battery pack in all. 2 The Alley-Bot Patrol used 31 battery pack each. The other 4 The Alley-Bot Patrol shared the rest equally. How many battery pack did each of the other The Alley-Bot Patrol get?

Answer: ☐ → **L**

There were 222 shiny cog in all. 1 The Alley-Bot Patrol used 21 shiny cog each. The other 3 The Alley-Bot Patrol shared the rest equally. How many shiny cog did each of the other The Alley-Bot Patrol get?

Answer: ☐ → **D**

Scratch space:

CLUE 3 Addition

A broken power dock was bypassed. We need to add up the charges of all the connected battery packs to see the total output.

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

1157 + 2413 = ☐ → W

2627 + 1515 = ☐ → S

4303 + 4777 = ☐ → L

4699 + 3549 = ☐ → H

2537 + 2222 = ☐ → P

4168 + 5456 = ☐ → I

5136 + 3176 = ☐ → A

968 + 2145 = ☐ → U

2201 + 1185 = ☐ → T

957 + 1432 = ☐ → O

3968 + 2877 = ☐ → E

4608 + 3498 = ☐ → N

5327 + 3002 = ☐ → R

1153 + 1254 = ☐ → K

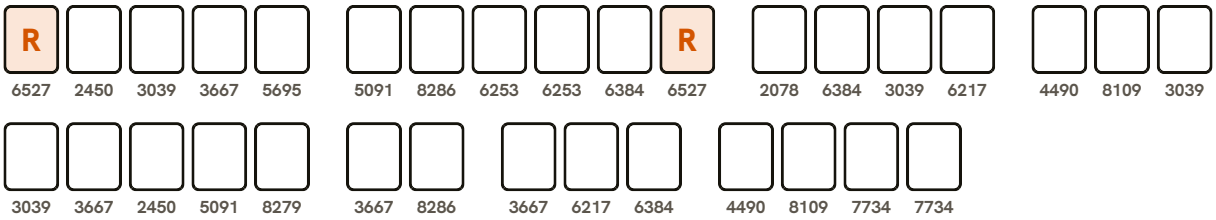
3560 + 3298 = ☐ → C

Scratch space:

CLUE 4 Subtraction

> The villain drained energy from the main generator. Let us subtract the leftover power from the starting amount to find the usage.

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



9494 - 2967 = ☐ → R

6739 - 4661 = ☐ → M

5439 - 2989 = ☐ → U

6351 - 134 = ☐ → H

11361 - 3252 = ☐ → A

7185 - 801 = ☐ → E

5013 - 1346 = ☐ → T

10434 - 2148 = ☐ → O

5421 - 2382 = ☐ → S

7596 - 1343 = ☐ → P

5232 - 141 = ☐ → C

11740 - 4006 = ☐ → L

10530 - 2251 = ☐ → K

5810 - 1320 = ☐ → W

6978 - 1283 = ☐ → Y

Scratch space:

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

> A box of backup microchips was knocked over. We must share the chips equally among the empty robot chassis to see how many each gets.

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 ÷ 6 = ☐	18 ÷ 2 = ☐	16 ÷ 2 = ☐	48 ÷ 12 = ☐	15 ÷ 3 = ☐
84 ÷ 7 = ☐	36 ÷ 12 = ☐	6 ÷ 1 = ☐	35 ÷ 5 = ☐	4 ÷ 2 = ☐
50 ÷ 5 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain fires a massive yarn projectile, then climbs the steel pipe.
2. The villain screeches a sonic soundwave, then floats over the laser grid.
3. The villain projects bright holograms, then scans the dark room.
4. The villain fires a massive yarn projectile, then floats over the laser grid.
5. The villain screeches a sonic soundwave, then scans the dark room.
6. The villain fires a massive yarn projectile, then scans the dark room.
7. The villain screeches a sonic soundwave, then climbs the steel pipe.
8. The villain ignites rocket boosters, then drills through the wall.
9. The villain projects bright holograms, then charges up in the sun.
10. The villain projects bright holograms, then climbs the steel pipe.
11. The villain fires a massive yarn projectile, then drills through the wall.
12. The villain blasts a high-energy laser, then drills through the wall.

TEACHER / PARENT

Answer Key

The Great Robo-Cat Heist

Culprit: Vector Vixen

Yarn Ball Launcher · Metal Claw Drill · Blue Eye LED · Rusty Copper Mesh · Water Sprinklers

Trail: Start 21 → Clue 1 17 → Clue 2 12 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE THIEF DOES NOT USE HOVER BOOSTER BOOTS"

What is the value of the 4 in 39,542? = 40 (T) · What is the value of the 9 in 67,297? = 90 (N) · What is the value of the 8 in 46,825? = 800 (E) · What is the value of the 5 in 667,522? = 500 (H) · What is the value of the 2 in 365,250? = 200 (I) · What is the value of the 2 in 135,126? = 20 (S) · What is the value of the 7 in 16,745? = 700 (O) · What is the value of the 4 in 96,426? = 400 (B) · What is the value of the 8 in 28,521? = 8000 (U) · What is the value of the 9 in 412,954? = 900 (V) · What is the value of the 4 in 834,005? = 4000 (D) · What is the value of the 6 in 497,262? = 60 (R) · What is the value of the 6 in 53,600? = 600 (F)

Clue 2 (Multi-step word problems): "BLUE EYE LED"

Robo-Kitten earned 6 shiny cog in each of 3 rounds, plus 27 bonus shiny cog. Then 10 shiny cog were lost. How many shiny cog are left? = 35 (B) · Robo-Kitten collected 19 copper wire in the morning and 146 copper wire in the afternoon, then split them equally among 3 The Alley-Bot Patrol. How many copper wire did each get? = 55 (U) · Robo-Kitten collected 190 battery pack in the morning and 38 battery pack in the afternoon, then split them equally among 6 The Alley-Bot Patrol. How many battery pack did each get? = 38 (E) · Robo-Kitten collected 106 copper wire in the morning and 234 copper wire in the afternoon, then split them equally among 5 The Alley-Bot Patrol. How many copper wire did each get? = 68 (Y) · There were 222 battery pack in all. 2 The Alley-Bot Patrol used 31 battery pack each. The other 4 The Alley-Bot Patrol shared the rest equally. How many battery pack did each of the other The Alley-Bot Patrol get? = 40 (L) · There were 222 shiny cog in all. 1 The Alley-Bot Patrol used 21 shiny cog each. The other 3 The Alley-Bot Patrol shared the rest equally. How many shiny cog did each of the other The Alley-Bot Patrol get? = 67 (D)

Clue 3 (Addition): "WATER SPRINKLERS WILL SHORT OUT THIS CAT"

1157 + 2413 = 3570 (W) · 2627 + 1515 = 4142 (S) · 4303 + 4777 = 9080 (L) · 4699 + 3549 = 8248 (H) · 2537 + 2222 = 4759 (P) · 4168 + 5456 = 9624 (I) · 5136 + 3176 = 8312 (A) · 968 + 2145 = 3113 (U) · 2201 + 1185 = 3386 (T) · 957 + 1432 = 2389 (O) · 3968 + 2877 = 6845 (E) · 4608 + 3498 = 8106 (N) · 5327 + 3002 = 8329 (R) · 1153 + 1254 = 2407 (K) · 3560 + 3298 = 6858 (C)

Clue 4 (Subtraction): "RUSTY COPPER MESH WAS STUCK TO THE WALL"

9494 - 2967 = 6527 (R) · 6739 - 4661 = 2078 (M) · 5439 - 2989 = 2450 (U) · 6351 - 134 = 6217 (H) · 11361 - 3252 = 8109 (A) · 7185 - 801 = 6384 (E) · 5013 - 1346 = 3667 (T) · 10434 - 2148 = 8286 (O) · 5421 - 2382 = 3039 (S) · 7596 - 1343 = 6253 (P) · 5232 - 141 = 5091 (C) · 11740 - 4006 = 7734 (L) · 10530 - 2251 = 8279 (K) · 5810 - 1320 = 4490 (W) · 6978 - 1283 = 5695 (Y)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Vector Vixen

6 ÷ 6 = 1 · 18 ÷ 2 = 9 · 16 ÷ 2 = 8 · 48 ÷ 12 = 4 · 15 ÷ 3 = 5 · 84 ÷ 7 = 12 · 36 ÷ 12 = 3 · 6 ÷ 1 = 6 · 35 ÷ 5 = 7 · 4 ÷ 2 = 2 · 50 ÷ 5 = 10