



The Cosmic Hoop Heist

Grade 6 math · Percentages, Exponents, Order of operations, Multiplication, Division · Reading level grades 5-6

Detective: _____ Date: _____

A sneaky robocat has hacked the electronic scoreboard and run off with the legendary Golden Salmon Trophy! All the stars are aligned for a tough investigation, and Coach Whiskers needs your math skills to identify the suspect before the final buzzer rings.

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 robotic feline cat-burglar is _____

Possible suspects

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

NAME	SPECIAL PLAY	ROBOT GEAR	SHOOTING STYLE	FUR COLOR	SYSTEM GLITCH
Giannis Claw	Laser Pounce	Fish Rocket	Right-pawed shooter	Cyber Green	Water Buckets
Cosmo Tail	Redstone Spark	Thruster Pack	Right-pawed shooter	Neon Orange	Water Buckets
Steve Voxel	Laser Pounce	Thruster Pack	Right-pawed shooter	Cyber Green	Water Buckets
Clawrdan	Laser Pounce	Net Hacker	Left-pawed shooter	Neon Orange	Squeaky Toys
Enderman Ed	Gravity Dunk	Net Hacker	Right-pawed shooter	Cyber Green	Water Buckets
Captain Whiskers	Redstone Spark	Pixel Shield	Left-pawed shooter	Voxel Blue	Laser Pointers
Yarn Chamberlain	Redstone Spark	Solar Panel	Right-pawed shooter	Cyber Green	Laser Pointers
Creeper Cat	Laser Pounce	Solar Panel	Right-pawed shooter	Voxel Blue	Water Buckets
Luka Scratch	Laser Pounce	Thruster Pack	Left-pawed shooter	Voxel Blue	Laser Pointers
Major Tom	Warp Boost	Net Hacker	Right-pawed shooter	Voxel Blue	Squeaky Toys
Bolt Bowser	Warp Boost	Thruster Pack	Left-pawed shooter	Cyber Green	Water Buckets
Pixel Kitty	Laser Pounce	Pixel Shield	Right-pawed shooter	Cyber Green	Water Buckets
Sir Purr	Block Build	Pixel Shield	Left-pawed shooter	Neon Orange	Laser Pointers
Coby Cat	Laser Pounce	Fish Rocket	Left-pawed shooter	Voxel Blue	Squeaky Toys
Meowming	Warp Boost	Fish Rocket	Right-pawed shooter	Voxel Blue	Squeaky Toys
Robo Bob	Gravity Dunk	Fish Rocket	Right-pawed shooter	Cyber Green	Water Buckets
Steph Furry	Warp Boost	Pixel Shield	Left-pawed shooter	Voxel Blue	Laser Pointers
Alex Ender	Warp Boost	Pixel Shield	Left-pawed shooter	Voxel Blue	Water Buckets
Space Jammer	Gravity Dunk	Net Hacker	Left-pawed shooter	Cyber Green	Water Buckets
LeBron Mew	Laser Pounce	Fish Rocket	Left-pawed shooter	Cyber Green	Water Buckets
Sputnik	Block Build	Thruster Pack	Right-pawed shooter	Cyber Green	Laser Pointers

CLUE 1 Percentages

Our scanner calculated the percentage of corrupted security files on the stolen laptop. Work out the percentages to decrypt this file.

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

Diagram illustrating a sequence of numbers arranged in two rows of boxes. The top row contains 13 boxes, and the bottom row contains 12 boxes. The numbers below the boxes are: 11, 5, 6, 39, 41, 28, 28, 43, 41, 32, 3, 8, 6, 12, 32, 8, 11 (top row) and 10, 12, 6, 43, 32, 6, 11, 5, 43, 44, 33, 6, 23 (bottom row). The boxes containing the letter 'T' are at the first position of the top row and the seventh position of the bottom row.

50% of 22 = $\rightarrow$ **T**

40% of 15 = → **E**

20% of 40 = $\rightarrow$

20% of 25 = → **H**

5% of 240 = $\rightarrow$ **S**

10% of 430 = $\rightarrow$ **A**

25% of 164 = $\rightarrow$

10% of 280 = → **L**

50% of 6 = $\rightarrow$ **D**

5% of 460 = → **R**

50% of 78 = $\rightarrow$ **V**

40% of 25 = $\rightarrow$ **U**

25% of 132 = → **K**

5% of 640 = → **N**

5% of 880 = → **C**

Scratch space:

CLUE 2

The getaway track power surge is multiplying exponentially through the block grid. Compute the exponents to track the signal.

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

Diagram illustrating the distribution of 169 T cells across 12 different antigenic epitopes. The diagram shows two rows of boxes, each representing an epitope. The number of T cells for each epitope is indicated below the box. The boxes are arranged in two rows: the top row has 12 boxes, and the bottom row has 9 boxes. The boxes with 169 T cells are highlighted in orange.

Epitope	T Cell Count
1	169
2	343
3	32
4	121
5	225
6	121
7	100
8	32
9	125
10	169
11	121
12	343
13	25
14	25
15	169
16	121
17	81
18	361
19	169
20	343
21	169
22	343
23	32
24	128
25	361
26	16
27	343
28	169
29	100
30	64
31	81

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

$15^2 =$ $\rightarrow$

$$8^2 = \boxed{} \rightarrow \boxed{\text{A}}$$

$$2^5 = \boxed{} \rightarrow \boxed{\text{E}}$$

$5^2 = \square \rightarrow \boxed{0}$

$3^4 = \square \rightarrow \boxed{W}$

$$11^2 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5^3 = \boxed{} \rightarrow \boxed{\text{C}}$$

$19^2 = \boxed{} \rightarrow \boxed{I}$

$7^3 = \square \rightarrow \boxed{\text{H}}$

$$2^7 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$10^2 = \boxed{} \rightarrow \boxed{\text{P}}$$

$4^2 = \square \rightarrow \boxed{\mathbf{G}}$

Scratch space:

CLUE 3

Order of operations

A locked blast door stands in our path, requiring a multi-step sequence to bypass. Follow the strict order of operations to crack the door code.

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

T																			
40	58	29	20	79	29	66	7	49	70	25	11	25	40	54	29	66	70	20	
		T																	
21	66	40	29	70	11	41	24	7	29	40	20								

$30 + 2 \times 5 = \square \rightarrow \boxed{\text{T}}$

$20 + 2 \times 2 = \square \rightarrow \boxed{\text{C}}$

$5 \times 5 - 4 = \square \rightarrow \boxed{\text{W}}$

$26 + 8 \times 4 = \square \rightarrow \boxed{\text{H}}$

$17 + 2 \times 4 = \square \rightarrow \boxed{\text{O}}$

$3 \times 11 - 26 = \square \rightarrow \boxed{\text{K}}$

$58 + 4 \times 2 = \square \rightarrow \boxed{\text{A}}$

$2 \times 9 - 7 = \square \rightarrow \boxed{\text{B}}$

$7 \times 10 - 21 = \square \rightarrow \boxed{\text{Y}}$

$9 \times 6 - 13 = \square \rightarrow \boxed{\text{U}}$

$67 + 4 \times 3 = \square \rightarrow \boxed{\text{N}}$

$7 \times 10 - 16 = \square \rightarrow \boxed{\text{F}}$

$62 + 4 \times 2 = \square \rightarrow \boxed{\text{R}}$

$17 + 3 \times 4 = \square \rightarrow \boxed{\text{E}}$

$8 + 2 \times 6 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 4

Multiplication facts (1-12)

We found several neat stacks of dropped space batteries in the stadium hallway. Multiply the columns of items to count how much energy was lost.

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

W																
7	30	63	88	44	45	8	2	14	11	30	40	6	40	30	30	45
40	88	11	88	42	63	44	40									

$1 \times 7 = \square \rightarrow \text{W}$

$7 \times 6 = \square \rightarrow \text{T}$

$4 \times 2 = \square \rightarrow \text{D}$

$11 \times 8 = \square \rightarrow \text{O}$

$6 \times 5 = \square \rightarrow \text{E}$

$8 \times 5 = \square \rightarrow \text{R}$

$1 \times 6 = \square \rightarrow \text{G}$

$5 \times 9 = \square \rightarrow \text{N}$

$4 \times 11 = \square \rightarrow \text{U}$

$9 \times 7 = \square \rightarrow \text{F}$

$11 \times 1 = \square \rightarrow \text{B}$

$2 \times 1 = \square \rightarrow \text{C}$

$7 \times 2 = \square \rightarrow \text{Y}$

Scratch space:

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

The referee needs to split the remaining recovery drones into equal scouting teams. Divide the groups perfectly to unlock the final coordinates.

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:

$21 \div 7 = \boxed{}$

$35 \div 5 = \boxed{}$

$60 \div 6 = \boxed{}$

$36 \div 9 = \boxed{}$

$72 \div 9 = \boxed{}$

$9 \div 9 = \boxed{}$

$22 \div 11 = \boxed{}$

$110 \div 10 = \boxed{}$

$42 \div 7 = \boxed{}$

$15 \div 3 = \boxed{}$

$120 \div 10 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain sparked a redstone current through the hoop, then deployed a protective pixel shield.
2. The villain warped across the court instantly, then fired a guided fish rocket overhead.
3. The villain pounced with target seeking lasers, then ignited a backup thruster pack to escape.
4. The villain spawned a voxel block barrier on court, then hacked the referee scoreboard data.
5. The villain activated a high altitude gravity dunk, then deployed a protective pixel shield.
6. The villain pounced with target seeking lasers, then charged up a solar panel helmet.
7. The villain activated a high altitude gravity dunk, then fired a guided fish rocket overhead.
8. The villain warped across the court instantly, then ignited a backup thruster pack to escape.
9. The villain pounced with target seeking lasers, then deployed a protective pixel shield.
10. The villain pounced with target seeking lasers, then fired a guided fish rocket overhead.
11. The villain activated a high altitude gravity dunk, then charged up a solar panel helmet.
12. The villain spawned a voxel block barrier on court, then fired a guided fish rocket overhead.

Answer Key

The Cosmic Hoop Heist

Culprit: Pixel Kitty

Laser Pounce · Pixel Shield · Right-pawed shooter · Cyber Green · Water Buckets

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Percentages): "THE VILLAIN DOES NOT USE A NET HACKER"

50% of 22 = 11 (T) · 40% of 15 = 6 (E) · 20% of 40 = 8 (O) · 20% of 25 = 5 (H) · 5% of 240 = 12 (S) · 10% of 430 = 43 (A) · 25% of 164 = 41 (I) · 10% of 280 = 28 (L) · 50% of 6 = 3 (D) · 5% of 460 = 23 (R) · 50% of 78 = 39 (V) · 40% of 25 = 10 (U) · 25% of 132 = 33 (K) · 5% of 640 = 32 (N) · 5% of 880 = 44 (C)

Clue 2 (Exponents): "THE SUSPECT SHOOTS WITH THE RIGHT PAW"

$13^2 = 169$ (T) · $15^2 = 225$ (U) · $8^2 = 64$ (A) · $2^5 = 32$ (E) · $5^2 = 25$ (O) · $3^4 = 81$ (W) · $11^2 = 121$ (S) · $5^3 = 125$ (C) · $19^2 = 361$ (I) · $7^3 = 343$ (H) · $2^7 = 128$ (R) · $10^2 = 100$ (P) · $4^2 = 16$ (G)

Clue 3 (Order of operations): "THE SNEAKY ROBOT FEARS WATER BUCKETS"

$30 + 2 \times 5 = 40$ (T) · $20 + 2 \times 2 = 24$ (C) · $5 \times 5 - 4 = 21$ (W) · $26 + 8 \times 4 = 58$ (H) · $17 + 2 \times 4 = 25$ (O) · $3 \times 11 - 26 = 7$ (K) · $58 + 4 \times 2 = 66$ (A) · $2 \times 9 - 7 = 11$ (B) · $7 \times 10 - 21 = 49$ (Y) · $9 \times 6 - 13 = 41$ (U) · $67 + 4 \times 3 = 79$ (N) · $7 \times 10 - 16 = 54$ (F) · $62 + 4 \times 2 = 70$ (R) · $17 + 3 \times 4 = 29$ (E) · $8 + 2 \times 6 = 20$ (S)

Clue 4 (Multiplication facts (1-12)): "WE FOUND CYBER GREEN ROBOT FUR"

$1 \times 7 = 7$ (W) · $7 \times 6 = 42$ (T) · $4 \times 2 = 8$ (D) · $11 \times 8 = 88$ (O) · $6 \times 5 = 30$ (E) · $8 \times 5 = 40$ (R) · $1 \times 6 = 6$ (G) · $5 \times 9 = 45$ (N) · $4 \times 11 = 44$ (U) · $9 \times 7 = 63$ (F) · $11 \times 1 = 11$ (B) · $2 \times 1 = 2$ (C) · $7 \times 2 = 14$ (Y)

Clue 5 (Division facts (1-12)): surviving statement is box 9 → Pixel Kitty

$21 \div 7 = 3$ · $35 \div 5 = 7$ · $60 \div 6 = 10$ · $36 \div 9 = 4$ · $72 \div 9 = 8$ · $9 \div 9 = 1$ · $22 \div 11 = 2$ · $110 \div 10 = 11$ · $42 \div 7 = 6$ · $15 \div 3 = 5$ · $120 \div 10 = 12$