



The Star Paw Station Heist

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

Detective: _____ Date: _____

Oh no! A rogue robotic kitten has sneaked aboard the Star Paw Space Station and swapped the rocket fuel with catnip juice! Commander Barnaby needs our help. Find the rogue robo-kitty before they turn off the gravity!

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 Robo-Kitty is _____

Possible suspects

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

NAME	SPACE LASER	TAIL TOOL	ANTENNA LIGHT	FUR FINISH	SYSTEM GLITCH
Comet Scratch	Cosmic Fish Beam	Jetpack Paws	Right Side Antenna Glow	Fluffy Orange Fleece	Magnetic Fish Toy
Nova Tail	Cosmic Fish Beam	Hover Disk Collar	Right Side Antenna Glow	Fluffy Orange Fleece	Ball of Tin Foil
Buster Chip	Super Grav-Booster	Hover Disk Collar	Right Side Antenna Glow	Chrome Metal Shell	Magnetic Fish Toy
Pixel Paws	Hyper Laser Pointer	Hover Disk Collar	Left Side Antenna Glow	Chrome Metal Shell	Ball of Tin Foil
Luna Bot	Cosmic Fish Beam	Scanner Ear Set	Right Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Turbo Boots	Cosmic Fish Beam	Hover Disk Collar	Right Side Antenna Glow	Chrome Metal Shell	Magnetic Fish Toy
Orion Meow	Super Grav-Booster	Hover Disk Collar	Right Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Cosmo Whiskers	Solar Heat Ray	Solar Panel Whiskers	Right Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Cyber Felix	Mega Yarn Magnet	Jetpack Paws	Left Side Antenna Glow	Chrome Metal Shell	High Pitch Whistle
Matrix Tail	Solar Heat Ray	Solar Panel Whiskers	Right Side Antenna Glow	Fluffy Orange Fleece	Magnetic Fish Toy
Radar Mew	Mega Yarn Magnet	Jetpack Paws	Right Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Garfield Tech	Cosmic Fish Beam	Jetpack Paws	Right Side Antenna Glow	Chrome Metal Shell	High Pitch Whistle
Glitch Shadow	Cosmic Fish Beam	Hover Disk Collar	Right Side Antenna Glow	Sleek Carbon Fiber	Magnetic Fish Toy
Byte Whiskers	Super Grav-Booster	Scanner Ear Set	Left Side Antenna Glow	Fluffy Orange Fleece	Magnetic Fish Toy
Gizmo Paw	Solar Heat Ray	Hover Disk Collar	Right Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Astro Socks	Super Grav-Booster	Hover Disk Collar	Right Side Antenna Glow	Sleek Carbon Fiber	High Pitch Whistle
Rusty Bolt	Super Grav-Booster	Rocket Booster Tail	Left Side Antenna Glow	Sleek Carbon Fiber	Ball of Tin Foil
Zappy Rover	Mega Yarn Magnet	Jetpack Paws	Right Side Antenna Glow	Fluffy Orange Fleece	Ball of Tin Foil
Stella Purr	Super Grav-Booster	Jetpack Paws	Left Side Antenna Glow	Chrome Metal Shell	Magnetic Fish Toy
Apollo Boots	Super Grav-Booster	Jetpack Paws	Left Side Antenna Glow	Sleek Carbon Fiber	High Pitch Whistle
Major Tomcat	Mega Yarn Magnet	Solar Panel Whiskers	Left Side Antenna Glow	Fluffy Orange Fleece	Ball of Tin Foil

CLUE 1 Place value

The ship computer shows a digital error code on the screen. Let us look at the place value digits to crack the code and find our first clue.

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

T																T
60	100	500	50	7000	90	90	6000	7000	400	1000	300	500	900	400	300	60

						T										
100	6000	50	500	80	500	60	200	6000	3000	70	200	6000	4000	900		

What is the value of the 6 in 5,564? → **T**

What is the value of the 7 in 47,289? → **I**

What is the value of the 1 in 61,063? → **D**

What is the value of the 6 in 6,893? → **A**

What is the value of the 9 in 948? → **S**

What is the value of the 4 in 4,273? → **W**

What is the value of the 7 in 9,472? → **K**

What is the value of the 8 in 984? → **J**

What is the value of the 1 in 5,108? → **H**

What is the value of the 4 in 6,435? → **N**

What is the value of the 3 in 6,361? → **O**

What is the value of the 2 in 259? → **P**

What is the value of the 3 in 13,145? → **C**

What is the value of the 5 in 250? → **V**

What is the value of the 9 in 896? → **L**

What is the value of the 5 in 8,530? → **E**

Scratch space:

CLUE 2 Addition

A pile of dropped metal bolts lies on the floor. Let us add them all together to find out how many the robo-kitty lost.

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

R																				
8069	8265	5033	6787	2791	2518	8265	4654	8359	7333	2140	2791	8359	2140	2140	7333	5033	5461	4818	7435	

								R			
7435	7333	2518	4818	2502	2518	8359	8069	2899	8359	4654	

$3893 + 4176 = \square \rightarrow \text{R}$	$1674 + 3359 = \square \rightarrow \text{G}$	$2398 + 4389 = \square \rightarrow \text{H}$
$2717 + 4616 = \square \rightarrow \text{A}$	$1139 + 1760 = \square \rightarrow \text{V}$	$4320 + 3945 = \square \rightarrow \text{I}$
$5441 + 2918 = \square \rightarrow \text{E}$	$2131 + 2523 = \square \rightarrow \text{D}$	$1525 + 977 = \square \rightarrow \text{B}$
$1957 + 2861 = \square \rightarrow \text{O}$	$1853 + 3608 = \square \rightarrow \text{L}$	$1338 + 1453 = \square \rightarrow \text{T}$
$1739 + 779 = \square \rightarrow \text{S}$	$4483 + 2952 = \square \rightarrow \text{W}$	$947 + 1193 = \square \rightarrow \text{N}$

Scratch space:

CLUE 3

Subtraction

The thief took some star cookies from the ship pantry. We can subtract the leftovers to see how many cookies are missing.

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

A		A											
2515	5578	2515	2656	2656	1263	5268	4256	8806	2088	5268	1263	8806	2656

		A									A		
7761	4290	2515	4535	6965	3199	4256	1084	6965	7984	8806	2656	2656	2515

$6344 - 3829 = \square \rightarrow \text{A}$

$5593 - 2394 = \square \rightarrow \text{D}$

$9477 - 1716 = \square \rightarrow \text{S}$

$6964 - 2708 = \square \rightarrow \text{T}$

$4158 - 2070 = \square \rightarrow \text{N}$

$10458 - 4880 = \square \rightarrow \text{B}$

$7118 - 2828 = \square \rightarrow \text{C}$

$5800 - 1265 = \square \rightarrow \text{R}$

$5787 - 4703 = \square \rightarrow \text{H}$

$12893 - 4087 = \square \rightarrow \text{I}$

$8883 - 3615 = \square \rightarrow \text{F}$

$2436 - 1173 = \square \rightarrow \text{O}$

$9094 - 1110 = \square \rightarrow \text{V}$

$6774 - 4118 = \square \rightarrow \text{L}$

$9247 - 2282 = \square \rightarrow \text{E}$

Scratch space:

CLUE 4
Multiplication facts (1-12)

We see laser-tag grids glowing on the wall. Let us multiply the rows and columns to find the total power of the beam.

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

C																
28	25	4	96	81	56	15	70	96	49	4	15	72	25	6	49	27
											C					
60	49	4	49	25	1	1	16	49	27	28	49	56	49			

$4 \times 7 = \square \rightarrow \boxed{\text{C}}$

$1 \times 1 = \square \rightarrow \boxed{\text{T}}$

$8 \times 7 = \square \rightarrow \boxed{\text{N}}$

$6 \times 12 = \square \rightarrow \boxed{\text{L}}$

$3 \times 2 = \square \rightarrow \boxed{\text{K}}$

$5 \times 5 = \square \rightarrow \boxed{\text{A}}$

$12 \times 8 = \square \rightarrow \boxed{\text{B}}$

$7 \times 7 = \square \rightarrow \boxed{\text{E}}$

$3 \times 5 = \square \rightarrow \boxed{\text{F}}$

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

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

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

$9 \times 9 = \square \rightarrow \boxed{\text{O}}$

$10 \times 6 = \square \rightarrow \boxed{\text{W}}$

$9 \times 3 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

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

We have a box of spare battery cells. We must divide them equally among the friendly helper bots to power up our trackers.

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:

$22 \div 11 = \square$

$48 \div 6 = \square$

$121 \div 11 = \square$

$6 \div 6 = \square$

$36 \div 12 = \square$

$45 \div 5 = \square$

$30 \div 6 = \square$

$108 \div 9 = \square$

$54 \div 9 = \square$

$63 \div 9 = \square$

$44 \div 11 = \square$

Step 2 - cross out the sentence with each answer:

1. The villain shines a hyper laser pointer, then zooms off on jetpack paws.
2. The villain shoots a solar heat ray, then recharges using solar panel whiskers.
3. The villain triggers a super grav-booster, then recharges using solar panel whiskers.
4. The villain fires a cosmic fish beam, then recharges using solar panel whiskers.
5. The villain turns on a mega yarn magnet, then flies away on a hover disk collar.
6. The villain turns on a mega yarn magnet, then escapes with a rocket booster tail.
7. The villain turns on a mega yarn magnet, then zooms off on jetpack paws.
8. The villain fires a cosmic fish beam, then listens in with a scanner ear set.
9. The villain fires a cosmic fish beam, then flies away on a hover disk collar.
10. The villain triggers a super grav-booster, then flies away on a hover disk collar.
11. The villain shoots a solar heat ray, then flies away on a hover disk collar.
12. The villain turns on a mega yarn magnet, then listens in with a scanner ear set.

Answer Key

The Star Paw Station Heist

Culprit: Orion Meow

Super Grav-Booster · Hover Disk Collar · Right Side Antenna Glow · Sleek Carbon Fiber · Ball of Tin Foil

Trail: Start 21 → Clue 1 14 → Clue 2 10 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT HAVE JETPACK PAWS"

What is the value of the 6 in 5,564? = 60 (T) · What is the value of the 7 in 47,289? = 7000 (I) · What is the value of the 1 in 61,063? = 1000 (D) · What is the value of the 6 in 6,893? = 6000 (A) · What is the value of the 9 in 948? = 900 (S) · What is the value of the 4 in 4,273? = 4000 (W) · What is the value of the 7 in 9,472? = 70 (K) · What is the value of the 8 in 984? = 80 (J) · What is the value of the 1 in 5,108? = 100 (H) · What is the value of the 4 in 6,435? = 400 (N) · What is the value of the 3 in 6,361? = 300 (O) · What is the value of the 2 in 259? = 200 (P) · What is the value of the 3 in 13,145? = 3000 (C) · What is the value of the 5 in 250? = 50 (V) · What is the value of the 9 in 896? = 90 (L) · What is the value of the 5 in 8,530? = 500 (E)

Clue 2 (Addition): "RIGHT SIDE ANTENNA GLOW WAS OBSERVED"

$3893 + 4176 = 8069$ (R) · $1674 + 3359 = 5033$ (G) · $2398 + 4389 = 6787$ (H) · $2717 + 4616 = 7333$ (A) · $1139 + 1760 = 2899$ (V) · $4320 + 3945 = 8265$ (I) · $5441 + 2918 = 8359$ (E) · $2131 + 2523 = 4654$ (D) · $1525 + 977 = 2502$ (B) · $1957 + 2861 = 4818$ (O) · $1853 + 3608 = 5461$ (L) · $1338 + 1453 = 2791$ (T) · $1739 + 779 = 2518$ (S) · $4483 + 2952 = 7435$ (W) · $947 + 1193 = 2140$ (N)

Clue 3 (Subtraction): "A BALL OF TIN FOIL SCARED THE VILLAIN"

$6344 - 3829 = 2515$ (A) · $5593 - 2394 = 3199$ (D) · $9477 - 1716 = 7761$ (S) · $6964 - 2708 = 4256$ (T) · $4158 - 2070 = 2088$ (N) · $10458 - 4880 = 5578$ (B) · $7118 - 2828 = 4290$ (C) · $5800 - 1265 = 4535$ (R) · $5787 - 4703 = 1084$ (H) · $12893 - 4087 = 8806$ (I) · $8883 - 3615 = 5268$ (F) · $2436 - 1173 = 1263$ (O) · $9094 - 1110 = 7984$ (V) · $6774 - 4118 = 2656$ (L) · $9247 - 2282 = 6965$ (E)

Clue 4 (Multiplication facts (1-12)): "CARBON FIBER FLAKES WERE AT THE SCENE"

$4 \times 7 = 28$ (C) · $1 \times 1 = 1$ (T) · $8 \times 7 = 56$ (N) · $6 \times 12 = 72$ (L) · $3 \times 2 = 6$ (K) · $5 \times 5 = 25$ (A) · $12 \times 8 = 96$ (B) · $7 \times 7 = 49$ (E) · $3 \times 5 = 15$ (F) · $2 \times 2 = 4$ (R) · $10 \times 7 = 70$ (I) · $4 \times 4 = 16$ (H) · $9 \times 9 = 81$ (O) · $10 \times 6 = 60$ (W) · $9 \times 3 = 27$ (S)

Clue 5 (Division facts (1-12)): surviving statement is box 10 → Orion Meow

$22 \div 11 = 2$ · $48 \div 6 = 8$ · $121 \div 11 = 11$ · $6 \div 6 = 1$ · $36 \div 12 = 3$ · $45 \div 5 = 9$ · $30 \div 6 = 5$ · $108 \div 9 = 12$ · $54 \div 9 = 6$ · $63 \div 9 = 7$ · $44 \div 11 = 4$