



The Cosmic Catnip Caper

Grade 5 math · Multiplication, Word problems, Multi-step word problems, Fractions of a number, Division · Reading level grades 3-4

Detective: _____ Date: _____

Oh no! A sneaky space pirate kitty has snuck aboard the Meow-1 Space Station and stolen the Golden Salmon Treat! The Chief Milk Officer needs your help. Use your math skills to decode the clues and find the culprit before they escape to the litter box galaxy!

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 space pirate 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 SUIT GEAR	SPACE SKILL	SUIT PATCH	FUR PATTERN	DISTRACTION
Pepper	laser pointer beam	mouse droid hack	moon patches	tabby stripes	vacuum cleaner hum
Simba	zero-g leap	tuna can radar	star patches	calico fur	spray water bottle
Cosmo	yarn ball shield	warp speed pounce	moon patches	tabby stripes	spray water bottle
Shadow	rocket boots	warp speed pounce	star patches	tabby stripes	catnip mist
Daisy	anti-gravity purr	mouse droid hack	star patches	tabby stripes	catnip mist
Pippin	rocket boots	tuna can radar	star patches	tabby stripes	catnip mist
Whiskers	yarn ball shield	solar nap	star patches	tabby stripes	spray water bottle
Major Tom	rocket boots	warp speed pounce	moon patches	tuxedo black fur	catnip mist
Astro	yarn ball shield	fishbone rocket	moon patches	tabby stripes	catnip mist
Mittens	zero-g leap	solar nap	star patches	tabby stripes	catnip mist
Rocky	zero-g leap	warp speed pounce	star patches	tuxedo black fur	catnip mist
Ziggy	zero-g leap	mouse droid hack	star patches	calico fur	catnip mist
Buster	rocket boots	warp speed pounce	moon patches	tabby stripes	spray water bottle
Stella	laser pointer beam	fishbone rocket	star patches	tuxedo black fur	catnip mist
Cleo	yarn ball shield	mouse droid hack	moon patches	calico fur	vacuum cleaner hum
Lucky	zero-g leap	solar nap	star patches	tabby stripes	vacuum cleaner hum
Smokey	rocket boots	fishbone rocket	moon patches	tabby stripes	catnip mist
Felix	anti-gravity purr	fishbone rocket	star patches	tabby stripes	catnip mist
Luna	rocket boots	mouse droid hack	moon patches	calico fur	catnip mist
Barnaby	anti-gravity purr	solar nap	star patches	calico fur	vacuum cleaner hum
Orion	laser pointer beam	warp speed pounce	star patches	tuxedo black fur	vacuum cleaner hum

CLUE 1

Multiplication facts (1-12)

We found a grid of solar energy cells. Multiply the rows of glowing cells to unlock the first clue file!

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

T																T	
35	110	20	63	6	80	80	70	6	100	2	49	20	8	100	49	35	
28	8	20	99	70	48	25	8	25	20	20	2	25	49	28	100	45	20

$5 \times 7 = \square \rightarrow \text{T}$

$10 \times 10 = \square \rightarrow \text{N}$

$7 \times 10 = \square \rightarrow \text{A}$

$5 \times 5 = \square \rightarrow \text{P}$

$4 \times 7 = \square \rightarrow \text{U}$

$11 \times 9 = \square \rightarrow \text{W}$

$5 \times 4 = \square \rightarrow \text{E}$

$2 \times 3 = \square \rightarrow \text{I}$

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

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

$11 \times 10 = \square \rightarrow \text{H}$

$8 \times 6 = \square \rightarrow \text{R}$

$8 \times 10 = \square \rightarrow \text{L}$

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

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

$7 \times 7 = \square \rightarrow \text{O}$

Scratch space:

CLUE 2

Word problems

A space mouse told us about a weird signal on the radar. Solve this word problem to clean up the fuzzy sound.

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

A witness saw the villain was S E S .

65 31 38 69 58 38 31 60 40 65

Captain Whiskers found 50 tuna tins yesterday and 15 more today. How many tuna tins in all?

Answer: → S

There were 66 tuna tins. 28 were used up. How many tuna tins are left?

Answer: → A

Captain Whiskers lined up 10 rows of 6 tuna tins. How many tuna tins in all?

Answer: → C

There were 67 yarn asteroids. 9 were used up. How many yarn asteroids are left?

Answer: → P

Captain Whiskers found 39 space mice yesterday and 30 more today. How many space mice in all?

Answer: → R

Captain Whiskers lined up 10 rows of 4 laser pointers. How many laser pointers in all?

Answer: → H

Captain Whiskers found 12 glow collars yesterday and 19 more today. How many glow collars in all?

Answer: → T

Scratch space:

CLUE 3

Multi-step word problems

To open the locked control room, we need to count the energy batteries and subtract the damaged ones.

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

Someone scared the villain off with C S .

22 34 28 25 42 79 68 42 28

Captain Whiskers filled 7 boxes with 3 tuna tins each, then found 1 more tuna tins. How many tuna tins are there in all?

Answer: → C

Captain Whiskers earned 3 yarn asteroids in each of 3 rounds, plus 27 bonus yarn asteroids. Then 2 yarn asteroids were lost. How many yarn asteroids are left?

Answer: → A

Captain Whiskers earned 3 tuna tins in each of 6 rounds, plus 17 bonus tuna tins. Then 7 tuna tins were lost. How many tuna tins are left?

Answer: → T

Captain Whiskers collected 83 laser pointers in the morning and 257 laser pointers in the afternoon, then split them equally among 5 The Astro-Claw Patrol. How many laser pointers did each get?

Answer: → M

There were 357 yarn asteroids in all. 3 The Astro-Claw Patrol used 35 yarn asteroids each. The other 6 The Astro-Claw Patrol shared the rest equally. How many yarn asteroids did each of the other The Astro-Claw Patrol get?

Answer: → I

Captain Whiskers earned 6 laser pointers in each of 6 rounds, plus 56 bonus laser pointers. Then 13 laser pointers were lost. How many laser pointers are left?

Answer: → P

There were 72 glow collars in all. 2 The Astro-Claw Patrol used 11 glow collars each. The other 2 The Astro-Claw Patrol shared the rest equally. How many glow collars did each of the other The Astro-Claw Patrol get?

Answer: → N

Scratch space:

Fractions of a number

The ship scanner found some floating items. Only a fraction of them are space clues. Let's find the fraction!

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

The diagram shows two rows of boxes, each representing a sequence of numbers. The top row has 18 boxes, and the bottom row has 12 boxes. Some boxes are shaded orange and contain the letter 'T'. Below each box is a number.

Top Row:

- Box 1: Shaded orange, contains 'T'. Number below: 34
- Box 2: White. Number below: 7
- Box 3: White. Number below: 17
- Box 4: White. Number below: 13
- Box 5: White. Number below: 17
- Box 6: White. Number below: 26
- Box 7: White. Number below: 35
- Box 8: White. Number below: 31
- Box 9: White. Number below: 3
- Box 10: Shaded orange, contains 'T'. Number below: 34
- Box 11: White. Number below: 9
- Box 12: White. Number below: 26
- Box 13: White. Number below: 28
- Box 14: White. Number below: 21
- Box 15: White. Number below: 17
- Box 16: White. Number below: 31
- Box 17: White. Number below: 28
- Box 18: White. Number below: 13
- Box 19: White. Number below: 28
- Box 20: White. Number below: 36

Bottom Row:

- Box 1: Shaded orange, contains 'T'. Number below: 34
- Box 2: White. Number below: 28
- Box 3: White. Number below: 22
- Box 4: White. Number below: 22
- Box 5: White. Number below: 9
- Box 6: White. Number below: 13
- Box 7: Shaded orange, contains 'T'. Number below: 34
- Box 8: White. Number below: 31
- Box 9: White. Number below: 3
- Box 10: White. Number below: 25
- Box 11: White. Number below: 17
- Box 12: White. Number below: 13

$2/4$ of 68 = $\rightarrow$ **T**

$$2/10 \text{ of } 175 = \boxed{} \rightarrow \boxed{\text{U}}$$

$2/8$ of $12 = \boxed{} \rightarrow \boxed{\text{I}}$

3/6 of 14 = → **H**

$2/4$ of 44 = $\rightarrow$ **B**

4/8 of 34 = → **E**

$$\frac{1}{3} \text{ of } 93 = \boxed{} \rightarrow \boxed{\text{R}}$$

2/4 of 18 = → **Y**

$\frac{1}{5}$ of 140 = $\rightarrow$ **A**

$2/10$ of 130 = $\rightarrow$ **C**

$$\frac{1}{6} \text{ of } 126 = \boxed{} \rightarrow \boxed{\text{M}}$$

4/8 of 26 = → **S**

$$\frac{3}{4} \text{ of } 48 = \boxed{} \rightarrow \boxed{\text{W}}$$

$$\frac{1}{2} \text{ of } 50 = \boxed{} \rightarrow \boxed{\text{P}}$$

Scratch space:

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

The escape pods must be shared equally among the crew. Divide them up to get the final clue!

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:

$30 \div 6 = \boxed{}$

$20 \div 2 = \boxed{}$

$60 \div 10 = \boxed{}$

$6 \div 3 = \boxed{}$

$12 \div 1 = \boxed{}$

$7 \div 1 = \boxed{}$

$40 \div 10 = \boxed{}$

$12 \div 12 = \boxed{}$

$48 \div 6 = \boxed{}$

$33 \div 3 = \boxed{}$

$12 \div 4 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain scrambled the ship navigation, then chased a shooting star.
2. The villain stole the glowing stardust, then scratched the spaceship couch.
3. The villain scrambled the ship navigation, then purred into the radio mic.
4. The villain knocked the main battery off the table, then napped on the solar panels.
5. The villain nibbled on the control panel wires, then purred into the radio mic.
6. The villain nibbled on the control panel wires, then hid inside the escape pod.
7. The villain knocked the main battery off the table, then purred into the radio mic.
8. The villain scrambled the ship navigation, then scratched the spaceship couch.
9. The villain floated away with the warp drive, then napped on the solar panels.
10. The villain knocked the main battery off the table, then chased a shooting star.
11. The villain scrambled the ship navigation, then napped on the solar panels.
12. The villain floated away with the warp drive, then hid inside the escape pod.

Answer Key

The Cosmic Catnip Caper

Culprit: Mittens

zero-g leap · solar nap · star patches · tabby stripes · catnip mist

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE WARP SPEED POUNCE"

$5 \times 7 = 35$ (T) · $10 \times 10 = 100$ (N) · $7 \times 10 = 70$ (A) · $5 \times 5 = 25$ (P) · $4 \times 7 = 28$ (U) · $11 \times 9 = 99$ (W) · $5 \times 4 = 20$ (E) · $2 \times 3 = 6$ (I) · $4 \times 2 = 8$ (S) · $7 \times 9 = 63$ (V) · $11 \times 10 = 110$ (H) · $8 \times 6 = 48$ (R) · $8 \times 10 = 80$ (L) · $1 \times 2 = 2$ (D) · $9 \times 5 = 45$ (C) · $7 \times 7 = 49$ (O)

Clue 2 (Word problems): "STAR PATCHES"

Captain Whiskers found 50 tuna tins yesterday and 15 more today. How many tuna tins in all? = 65 (S) · There were 66 tuna tins. 28 were used up. How many tuna tins are left? = 38 (A) · Captain Whiskers lined up 10 rows of 6 tuna tins. How many tuna tins in all? = 60 (C) · There were 67 yarn asteroids. 9 were used up. How many yarn asteroids are left? = 58 (P) · Captain Whiskers found 39 space mice yesterday and 30 more today. How many space mice in all? = 69 (R) · Captain Whiskers lined up 10 rows of 4 laser pointers. How many laser pointers in all? = 40 (H) · Captain Whiskers found 12 glow collars yesterday and 19 more today. How many glow collars in all? = 31 (T)

Clue 3 (Multi-step word problems): "CATNIP MIST"

Captain Whiskers filled 7 boxes with 3 tuna tins each, then found 1 more tuna tins. How many tuna tins are there in all? = 22 (C) · Captain Whiskers earned 3 yarn asteroids in each of 3 rounds, plus 27 bonus yarn asteroids. Then 2 yarn asteroids were lost. How many yarn asteroids are left? = 34 (A) · Captain Whiskers earned 3 tuna tins in each of 6 rounds, plus 17 bonus tuna tins. Then 7 tuna tins were lost. How many tuna tins are left? = 28 (T) · Captain Whiskers collected 83 laser pointers in the morning and 257 laser pointers in the afternoon, then split them equally among 5 The Astro-Claw Patrol. How many laser pointers did each get? = 68 (M) · There were 357 yarn asteroids in all. 3 The Astro-Claw Patrol used 35 yarn asteroids each. The other 6 The Astro-Claw Patrol shared the rest equally. How many yarn asteroids did each of the other The Astro-Claw Patrol get? = 42 (I) · Captain Whiskers earned 6 laser pointers in each of 6 rounds, plus 56 bonus laser pointers. Then 13 laser pointers were lost. How many laser pointers are left? = 79 (P) · There were 72 glow collars in all. 2 The Astro-Claw Patrol used 11 glow collars each. The other 2 The Astro-Claw Patrol shared the rest equally. How many glow collars did each of the other The Astro-Claw Patrol get? = 25 (N)

Clue 4 (Fractions of a number): "THE SECURITY CAMERA SAW TABBY STRIPES"

$\frac{2}{4}$ of 68 = 34 (T) · $\frac{2}{10}$ of 175 = 35 (U) · $\frac{2}{8}$ of 12 = 3 (I) · $\frac{3}{6}$ of 14 = 7 (H) · $\frac{2}{4}$ of 44 = 22 (B) · $\frac{4}{8}$ of 34 = 17 (E) · $\frac{1}{3}$ of 93 = 31 (R) · $\frac{2}{4}$ of 18 = 9 (Y) · $\frac{1}{5}$ of 140 = 28 (A) · $\frac{2}{10}$ of 130 = 26 (C) · $\frac{1}{6}$ of 126 = 21 (M) · $\frac{4}{8}$ of 26 = 13 (S) · $\frac{3}{4}$ of 48 = 36 (W) · $\frac{1}{2}$ of 50 = 25 (P)

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

$30 \div 6 = 5$ · $20 \div 2 = 10$ · $60 \div 10 = 6$ · $6 \div 3 = 2$ · $12 \div 1 = 12$ · $7 \div 1 = 7$ · $40 \div 10 = 4$ · $12 \div 12 = 1$ · $48 \div 6 = 8$ · $33 \div 3 = 11$ · $12 \div 4 = 3$