



The Case of the Cosmic Caper

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

The Galactic Gems, the universe's most dazzling treasures, have been stolen from the Starport Museum! As ace Space Detectives, you must explore the starport, question the suspects, and find the sneaky space pirate before they zoom away.

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 is _____

Possible suspects

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

NAME	STAR POWER	GADGET	OBSERVATION	COSMIC STYLE	ALIEN ALLERGY
Scout Galaxy	Gravity Grip	Invisibility Cloak	Carried a space blaster	Rainbow streaks	Alien fruit
Commander Jax	Warp Speed	Rocket Boots	Wore a helmet	Rainbow streaks	Space dust
Ambassador Solaris	Gravity Grip	Teleportation Device	Carried a space blaster	Sparkling silver	High-pitched noises
Engineer Nebula	Laser Focus	Shield Generator	Carried a space blaster	Rainbow streaks	Alien fruit
Professor Quasar	Laser Focus	Rocket Boots	Wore a helmet	Rainbow streaks	Alien fruit
Dr. Astra	Gravity Grip	Teleportation Device	Carried a space blaster	Neon green	High-pitched noises
Scientist Sunbeam	Sonic Blast	Rocket Boots	Wore a helmet	Neon green	Alien fruit
Spy Stardust	Warp Speed	Shield Generator	Wore a helmet	Neon green	Alien fruit
Captain Comet Tail	Gravity Grip	Teleportation Device	Wore a helmet	Sparkling silver	Alien fruit
Captain Stella	Gravity Grip	Tractor Beam	Wore a helmet	Rainbow streaks	Alien fruit
Navigator Orion	Gravity Grip	Tractor Beam	Carried a space blaster	Sparkling silver	Alien fruit
Medic Aurora	Laser Focus	Invisibility Cloak	Carried a space blaster	Rainbow streaks	Alien fruit
Envoy Zenith	Gravity Grip	Rocket Boots	Carried a space blaster	Rainbow streaks	High-pitched noises
Pilot Comet	Sonic Blast	Rocket Boots	Carried a space blaster	Rainbow streaks	Alien fruit
Navigator Sky Runner	Sonic Blast	Tractor Beam	Carried a space blaster	Rainbow streaks	Alien fruit
Scientist Pulsar	Force Field	Shield Generator	Wore a helmet	Sparkling silver	High-pitched noises
Ranger Cosmos	Warp Speed	Tractor Beam	Carried a space blaster	Rainbow streaks	Space dust
Pilot Star Hopper	Sonic Blast	Tractor Beam	Carried a space blaster	Neon green	High-pitched noises
Agent Starbright	Warp Speed	Teleportation Device	Wore a helmet	Neon green	Space dust
Ranger Meteor	Laser Focus	Teleportation Device	Carried a space blaster	Neon green	Alien fruit
Engineer Moon Dust	Gravity Grip	Rocket Boots	Wore a helmet	Rainbow streaks	Alien fruit

CLUE 1
Place value (tens & ones)

The first suspect's ship computer logs were recovered. The security system uses a special code based on the ship's registration number, but some digits are scrambled. The detective needs to figure out which digit is in which place to get the code.

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

T 64	96	80	T 64	96	90	47	87	59	12	45	87	T 64	80	12	87	59	12	45
90	12	80	87	59	99	80	45	58	71	71	80	99	80	12	64	T 64		

What number has 6 tens and 4 ones? →

T

What number has 4 tens and 7 ones? →

U

What number has 8 tens and 7 ones? →

S

What number has 7 tens and 1 one? →

F

What number has 8 tens and 0 ones? →

E

What number has 9 tens and 6 ones? →

H

What number has 5 tens and 9 ones? →

A

What number has 4 tens and 5 ones? →

D

What number has 9 tens and 0 ones? →

O

What number has 5 tens and 8 ones? →

I

What number has 1 ten and 2 ones? →

N

What number has 9 tens and 9 ones? →

R

Scratch space:

CLUE 2 **Addition**

The space pirate left behind a crate of tools. The detective counted the tools in each compartment to see how many there were in total.

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

A number line from 0 to 100 with increments of 10. The number 92 is highlighted in orange and labeled with a large 'S'. The number 90 is also highlighted in orange.

$61 + 31 = \boxed{} \rightarrow \boxed{\text{S}}$

$41 + 53 = \boxed{} \rightarrow \boxed{\text{E}}$

$35 + 56 = \boxed{} \rightarrow \boxed{\text{P}}$

$19 + 19 = \boxed{} \rightarrow \boxed{1}$

$38 + 34 = \boxed{} \rightarrow \boxed{\text{A}}$

$12 + 24 = \boxed{} \rightarrow \boxed{\text{C}}$

$$44 + 21 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$12 + 16 = \boxed{} \rightarrow \boxed{\mathbf{W}}$$

$$27 + 63 = \boxed{} \rightarrow \boxed{\text{R}}$$

$13 + 19 = \boxed{} \rightarrow \boxed{\text{L}}$

$26 + 37 = \boxed{} \rightarrow \boxed{\text{T}}$

$$23 + 47 = \boxed{} \rightarrow \boxed{\text{D}}$$

$22 + 44 = \boxed{} \rightarrow \boxed{\text{O}}$

$28 + 26 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

Scratch space:

CLUE 3

Subtraction

The space pirate tried to escape through the air vents, but got stuck! The detective measured how far the pirate squeezed into the vent before getting wedged.

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

C																		
75	55	81	29	78	50	59	67	50	69	15	27	78	50	69	86	16	50	67

84	15	81	16	27

$90 - 15 = \square \rightarrow \boxed{\text{C}}$

$110 - 32 = \square \rightarrow \boxed{\text{H}}$

$94 - 13 = \square \rightarrow \boxed{\text{U}}$

$69 - 40 = \square \rightarrow \boxed{\text{G}}$

$77 - 22 = \square \rightarrow \boxed{\text{O}}$

$107 - 21 = \square \rightarrow \boxed{\text{L}}$

$44 - 28 = \square \rightarrow \boxed{\text{I}}$

$38 - 11 = \square \rightarrow \boxed{\text{T}}$

$81 - 12 = \square \rightarrow \boxed{\text{A}}$

$83 - 33 = \square \rightarrow \boxed{\text{E}}$

$41 - 26 = \square \rightarrow \boxed{\text{R}}$

$109 - 25 = \square \rightarrow \boxed{\text{F}}$

$72 - 5 = \square \rightarrow \boxed{\text{N}}$

$84 - 25 = \square \rightarrow \boxed{\text{D}}$

Scratch space:

CLUE 4 Skip counting

A trail of space snacks was found leading away from the museum. The detective counted the snacks by skipping every other one to see how many were left behind.

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

R										R									
100	90	27	9	110	26	65	21	90	27	100	60	8	140	15	120	12	60	30	140

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **R**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 → **A**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, __, 70, 80 → **D**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 → **I**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **O**

Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 → **S**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 → **M**

Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 → **G**

Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 → **Y**

Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 → **N**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 → **U**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **E**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 → **B**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **H**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 → **W**

Scratch space:

CLUE 5**Missing addends - the last clue**

The space pirate needed to share the stolen gems equally among their crew. The detective found a note showing how many gems were stolen and how many crew members there were, but the number of gems per pirate was smudged.

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:

$10 + \underline{\quad} = 12$

$5 + \underline{\quad} = 6$

$2 + \underline{\quad} = 14$

$8 + \underline{\quad} = 19$

$1 + \underline{\quad} = 9$

$1 + \underline{\quad} = 8$

$10 + \underline{\quad} = 14$

$5 + \underline{\quad} = 15$

$8 + \underline{\quad} = 11$

$10 + \underline{\quad} = 19$

$8 + \underline{\quad} = 13$

Step 2 - cross out the sentence with each answer:

1. The villain phased, then boosted.
2. The villain grabbed, then zapped.
3. The villain phased, then zapped.
4. The villain boosted, then teleported.
5. The villain zapped, then boosted.
6. The villain phased, then phased.
7. The villain grabbed, then teleported.
8. The villain teleported, then boosted.
9. The villain grabbed, then boosted.
10. The villain boosted, then phased.
11. The villain zapped, then grabbed.
12. The villain boosted, then zapped.

Answer Key

The Case of the Cosmic Caper

Culprit: Pilot Comet

Sonic Blast · Rocket Boots · Carried a space blaster · Rainbow streaks · Alien fruit

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value (tens & ones)): "THE THOUSANDS TENS AND ONES ARE DIFFERENT"

What number has 6 tens and 4 ones? = 64 (T) · What number has 4 tens and 7 ones? = 47 (U) · What number has 8 tens and 7 ones? = 87 (S) · What number has 7 tens and 1 one? = 71 (F) · What number has 8 tens and 0 ones? = 80 (E) · What number has 9 tens and 6 ones? = 96 (H) · What number has 5 tens and 9 ones? = 59 (A) · What number has 4 tens and 5 ones? = 45 (D) · What number has 9 tens and 0 ones? = 90 (O) · What number has 5 tens and 8 ones? = 58 (I) · What number has 1 ten and 2 ones? = 12 (N) · What number has 9 tens and 9 ones? = 99 (R)

Clue 2 (Addition): "SPOTTED WITH A SPACE BLASTER"

$61 + 31 = 92$ (S) · $41 + 53 = 94$ (E) · $35 + 56 = 91$ (P) · $19 + 19 = 38$ (I) · $38 + 34 = 72$ (A) · $12 + 24 = 36$ (C) · $44 + 21 = 65$ (H) · $12 + 16 = 28$ (W) · $27 + 63 = 90$ (R) · $13 + 19 = 32$ (L) · $26 + 37 = 63$ (T) · $23 + 47 = 70$ (D) · $22 + 44 = 66$ (O) · $28 + 26 = 54$ (B)

Clue 3 (Subtraction): "COUGHED NEAR THE ALIEN FRUIT"

$90 - 15 = 75$ (C) · $110 - 32 = 78$ (H) · $94 - 13 = 81$ (U) · $69 - 40 = 29$ (G) · $77 - 22 = 55$ (O) · $107 - 21 = 86$ (L) · $44 - 28 = 16$ (I) · $38 - 11 = 27$ (T) · $81 - 12 = 69$ (A) · $83 - 33 = 50$ (E) · $41 - 26 = 15$ (R) · $109 - 25 = 84$ (F) · $72 - 5 = 67$ (N) · $84 - 25 = 59$ (D)

Clue 4 (Skip counting): "RAINBOW HAIR DYE SMUDGE"

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (R) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 = 90 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, __, 70, 80 = 60 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (O) · Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 = 15 (S) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 = 120 (M) · Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 = 30 (G) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (Y) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (N) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (U) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (E) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (B) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (H) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (W)

Clue 5 (Missing addends): surviving statement is box 6 → Pilot Comet

$10 + \underline{\quad} = 12 = 2$ · $5 + \underline{\quad} = 6 = 1$ · $2 + \underline{\quad} = 14 = 12$ · $8 + \underline{\quad} = 19 = 11$ · $1 + \underline{\quad} = 9 = 8$ · $1 + \underline{\quad} = 8 = 7$ · $10 + \underline{\quad} = 14 = 4$ · $5 + \underline{\quad} = 15 = 10$ · $8 + \underline{\quad} = 11 = 3$ · $10 + \underline{\quad} = 19 = 9$ · $8 + \underline{\quad} = 13 = 5$