



The Cosmic Canopy Caper

Grade 2 math · Place value, Addition, Subtraction, Skip counting, Missing addends · Reading level grades 1-2

Detective: _____ Date: _____

Oh no! A sneaky Space Bandit has snuck into Star City Base and taken the golden star map! We must use our math skills to trace the clues and find who did it before they fly out of the 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 Bandit 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 POWER	GEAR TOOL	TOOL HAND	HELMET GLOW	WEAKNESS
Neil Armstrong	jetpack	star grapple	right handed tool user	green glow	magnetic waves
Tim Peake	power glove	force shield	left handed tool user	blue glow	moon dust
Valentina Tereshkova	power glove	plasma wrench	right handed tool user	green glow	moon dust
Mae Jemison	jetpack	force shield	left handed tool user	blue glow	magnetic waves
Kalpana Chawla	sonar visor	plasma wrench	left handed tool user	green glow	moon dust
Yuri Gagarin	gravity belt	plasma wrench	right handed tool user	green glow	magnetic waves
Fred Haise	power glove	plasma wrench	left handed tool user	green glow	magnetic waves
Sunita Williams	laser boots	star grapple	right handed tool user	blue glow	moon dust
Gene Cernan	gravity belt	star grapple	left handed tool user	blue glow	moon dust
Pete Conrad	laser boots	freeze ray	left handed tool user	red glow	moon dust
Ellen Ochoa	sonar visor	plasma wrench	left handed tool user	green glow	magnetic waves
Michael Collins	jetpack	force shield	left handed tool user	green glow	magnetic waves
Bernard Harris	gravity belt	plasma wrench	left handed tool user	green glow	moon dust
Guy Bluford	sonar visor	force shield	right handed tool user	red glow	magnetic waves
John Glenn	sonar visor	force shield	right handed tool user	blue glow	magnetic waves
Alan Shepard	sonar visor	freeze ray	left handed tool user	red glow	magnetic waves
Scott Kelly	jetpack	cosmic net	left handed tool user	blue glow	moon dust
Jim Lovell	sonar visor	cosmic net	left handed tool user	green glow	magnetic waves
Buzz Aldrin	power glove	star grapple	left handed tool user	green glow	moon dust
Peggy Whitson	jetpack	plasma wrench	right handed tool user	green glow	moon dust
Sally Ride	power glove	freeze ray	left handed tool user	green glow	magnetic waves

CLUE 1

The computer screen is blinking with numbers. Read the tens and ones to unlock the secret code.

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

The number line shows the following numbers in the boxes:

Row	Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8	Box 9	Box 10	Box 11	Box 12	Box 13	Box 14	Box 15	
Top Row	21	67	18	78	48	50	83	37	34	50	65	18	79	42	65	21
Bottom Row	21	67	18	97	66	18	18	17	18	66	48	34				

What number has 2 tens and 1 one?

A diagram illustrating a transition. On the left is a simple rectangular box. An arrow points from this box to a second box on the right. The second box is identical in shape but has a thicker border and contains the capital letter 'T' in the center.

What number has 1 ten and 7 ones?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box contains the letter 'Z' in a bold, black font.

What number has 6 tens and 6 ones?

A diagram showing a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box has a thick border and contains the letter 'R' in a bold, black, sans-serif font.

What number has 8 tens and 3 ones?

A diagram illustrating a transformation. On the left is a light blue rounded rectangle containing a large black question mark. An arrow points to the right, where there is a light blue rounded rectangle containing the letter 'G'.

What number has 7 tens and 9 ones?

What number has 4 tens and 8 ones?

A diagram consisting of a rectangular box on the left, followed by a right-pointing arrow, and then another rectangular box on the right containing the letter 'A'.

What number has 3 tens and 7 ones?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. Inside the second box is the letter 'U'.

What number has 6 tens and 5 ones?

A diagram showing a box on the left with an arrow pointing to a box on the right containing the number 0.

What number has 7 tens and 8 ones?



What number has 4 tens and 2 ones?

A diagram showing a mapping from an empty box to a box labeled 'N'. An arrow points from an empty box on the left to a box containing the letter 'N' on the right.

What number has 3 tens and 4 ones?



What number has 9 tens and 7 ones?

What number has 6 tens and 7 ones?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box has a thick border and contains the letter 'H' in the center.

What number has 5 tens and 0 ones?



What number has 1 ten and 8 ones?

A diagram illustrating a transformation. On the left is a simple rectangular box. An arrow points from this box to another rectangular box on the right. This second box contains the letter 'E' in a bold, sans-serif font.

Scratch space:

CLUE 2 Addition

We found two packs of space fuel. Add the canisters together to see how much power we have.

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

T										T									
62	64	43	90	21	43	60	61	98	62	64	66	43	42	86	90	43	25		

T								T				
62	64	43	66	83	55	43	42	62	64	60	21	25

$31 + 31 = \square \rightarrow$ T	$43 + 55 = \square \rightarrow$ Y	$11 + 14 = \square \rightarrow$ D
$35 + 26 = \square \rightarrow$ K	$28 + 32 = \square \rightarrow$ A	$28 + 38 = \square \rightarrow$ I
$20 + 23 = \square \rightarrow$ E	$24 + 18 = \square \rightarrow$ F	$55 + 31 = \square \rightarrow$ U
$34 + 30 = \square \rightarrow$ H	$61 + 29 = \square \rightarrow$ S	$8 + 13 = \square \rightarrow$ N
$40 + 43 = \square \rightarrow$ R	$24 + 31 = \square \rightarrow$ L	

Scratch space:

CLUE 3

Subtraction

Some meteorites hit our solar panels. Subtract the broken ones to see what is left.

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

A number line from 0 to 100 with boxes for numbers. The number 68 is highlighted in orange. The numbers 28, 77, 71, 65, 22, 20, 52, 85, 24, 65, 81, 12, 40, 36, 52, 58, 65, 57, 22, 45, 65, 12, 28, 57, 12, 28, 71, 57, 20, and 22 are also present.

98 - 30 = → **M**

$103 - 26 = \boxed{} \rightarrow \boxed{\text{G}}$

$$48 - 12 = \boxed{} \rightarrow \boxed{0}$$

91 - 26 = → **E**

$$68 - 23 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$76 - 24 = \boxed{} \rightarrow \boxed{\text{C}}$$

$83 - 12 = \boxed{} \rightarrow \boxed{\text{N}}$

$$50 - 26 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$60 - 2 = \boxed{} \rightarrow \boxed{\text{K}}$

$50 - 38 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$31 - 9 = \square \rightarrow \boxed{\text{T}}$

88 - 3 = → **W**

$43 - 23 = \square \rightarrow \boxed{1}$

$63 - 6 = \boxed{} \rightarrow \boxed{\text{D}}$

$120 - 39 = \square \rightarrow \boxed{\text{S}}$

$62 - 34 = \square \rightarrow \mathbf{A}$

$$60 - 20 = \boxed{} \rightarrow \boxed{\text{L}}$$

Scratch space:

CLUE 4 Skip counting

The glowing alien footprints go in groups. Count by fives to track where they lead.

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

A																			
36	8	40	80	130	42	65	130	40	24	24	120	130	6	100	9	9	36	21	
21	16	100	65	65	24	70													

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 → **A**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 → **E**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **H**

Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 → **L**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 → **G**

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, __, 45, 50 → **R**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 → **P**

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

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

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **D**

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

Scratch space:

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

Our cargo bay needs ten moon rocks. Look at what we have and find out how many more we need.

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:

$4 + \underline{\quad} = 13$

$7 + \underline{\quad} = 10$

$3 + \underline{\quad} = 10$

$8 + \underline{\quad} = 20$

$8 + \underline{\quad} = 9$

$5 + \underline{\quad} = 10$

$1 + \underline{\quad} = 5$

$1 + \underline{\quad} = 3$

$4 + \underline{\quad} = 10$

$2 + \underline{\quad} = 12$

$3 + \underline{\quad} = 11$

Step 2 - cross out the sentence with each answer:

1. The villain smashes a lock with a power glove, then blocks the alarm with a force shield.
2. The villain smashes a lock with a power glove, then bags the loot in a cosmic net.
3. The villain finds the way with a sonar visor, then opens a hatch with a plasma wrench.
4. The villain leaps high with laser boots, then chills the safe with a freeze ray.
5. The villain leaps high with laser boots, then zips to the roof with a star grapple.
6. The villain smashes a lock with a power glove, then zips to the roof with a star grapple.
7. The villain smashes a lock with a power glove, then opens a hatch with a plasma wrench.
8. The villain leaps high with laser boots, then bags the loot in a cosmic net.
9. The villain zooms off with a jetpack, then blocks the alarm with a force shield.
10. The villain smashes a lock with a power glove, then chills the safe with a freeze ray.
11. The villain finds the way with a sonar visor, then bags the loot in a cosmic net.
12. The villain leaps high with laser boots, then opens a hatch with a plasma wrench.

Answer Key

The Cosmic Canopy Caper

Culprit: Jim Lovell

sonar visor · cosmic net · left handed tool user · green glow · magnetic waves

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

Clue 1 (Place value): "THE BAD GUY DOES NOT USE THE FREEZE RAY"

What number has 2 tens and 1 one? = 21 (T) · What number has 1 ten and 7 ones? = 17 (Z) · What number has 6 tens and 6 ones? = 66 (R) · What number has 8 tens and 3 ones? = 83 (G) · What number has 7 tens and 9 ones? = 79 (S) · What number has 4 tens and 8 ones? = 48 (A) · What number has 3 tens and 7 ones? = 37 (U) · What number has 6 tens and 5 ones? = 65 (O) · What number has 7 tens and 8 ones? = 78 (B) · What number has 4 tens and 2 ones? = 42 (N) · What number has 3 tens and 4 ones? = 34 (Y) · What number has 9 tens and 7 ones? = 97 (F) · What number has 6 tens and 7 ones? = 67 (H) · What number has 5 tens and 0 ones? = 50 (D) · What number has 1 ten and 8 ones? = 18 (E)

Clue 2 (Addition): "THE SNEAKY THIEF USED THEIR LEFT HAND"

$31 + 31 = 62$ (T) · $43 + 55 = 98$ (Y) · $11 + 14 = 25$ (D) · $35 + 26 = 61$ (K) · $28 + 32 = 60$ (A) · $28 + 38 = 66$ (I) · $20 + 23 = 43$ (E) · $24 + 18 = 42$ (F) · $55 + 31 = 86$ (U) · $34 + 30 = 64$ (H) · $61 + 29 = 90$ (S) · $8 + 13 = 21$ (N) · $40 + 43 = 83$ (R) · $24 + 31 = 55$ (L)

Clue 3 (Subtraction): "MAGNETIC WAVES BLOCKED THE BAD BANDIT"

$98 - 30 = 68$ (M) · $103 - 26 = 77$ (G) · $48 - 12 = 36$ (O) · $91 - 26 = 65$ (E) · $68 - 23 = 45$ (H) · $76 - 24 = 52$ (C) · $83 - 12 = 71$ (N) · $50 - 26 = 24$ (V) · $60 - 2 = 58$ (K) · $50 - 38 = 12$ (B) · $31 - 9 = 22$ (T) · $88 - 3 = 85$ (W) · $43 - 23 = 20$ (I) · $63 - 6 = 57$ (D) · $120 - 39 = 81$ (S) · $62 - 34 = 28$ (A) · $60 - 20 = 40$ (L)

Clue 4 (Skip counting): "A BRIGHT GREEN GLOW WAS SPOTTED"

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 = 36 (A) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (E) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (H) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (G) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (B) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, __, 45, 50 = 40 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (P) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, __, 70, 75 = 65 (T) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (S) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (O) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (W) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 = 70 (D) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, __, 130, 140 = 120 (N)

Clue 5 (Missing addends): surviving statement is box 11 → Jim Lovell

$4 + \underline{\quad} = 13 = 9$ · $7 + \underline{\quad} = 10 = 3$ · $3 + \underline{\quad} = 10 = 7$ · $8 + \underline{\quad} = 20 = 12$ · $8 + \underline{\quad} = 9 = 1$ · $5 + \underline{\quad} = 10 = 5$ · $1 + \underline{\quad} = 5 = 4$ · $1 + \underline{\quad} = 3 = 2$ · $4 + \underline{\quad} = 10 = 6$ · $2 + \underline{\quad} = 12 = 10$ · $3 + \underline{\quad} = 11 = 8$