



The Astro-Base Adventure

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

Detective: _____ **Date:** _____

Oh no! A sneaky space-thief took the Golden Star-Map from Astro-Base Alpha. The Chief Astronomer needs your help to find them before they rocket 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-thief is _____

Possible suspects

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

NAME	JETPACK TYPE	SPACE TOOL	WAVING HAND	SPACESUIT HAIR	SPACE ALLERGY
Barbie	gravity zip	meteor net	right waving	shiny silver hair	cosmic dust
Christina	solar wing	moon drill	right waving	shiny silver hair	cosmic dust
Yuri	gravity zip	cosmic key	right waving	shiny silver hair	cosmic dust
Buzz	turbo boost	moon drill	left waving	shiny silver hair	cosmic dust
Luna	turbo boost	star scoop	left waving	shiny silver hair	cosmic dust
Sally	gravity zip	laser wrench	right waving	bright green hair	space bubbles
Guion	turbo boost	star scoop	right waving	shiny silver hair	cosmic dust
Nova	gravity zip	star scoop	right waving	shiny silver hair	cosmic dust
Suni	solar wing	star scoop	right waving	neon blue hair	cosmic dust
Zack	bubble float	laser wrench	right waving	bright green hair	space bubbles
Anne	solar wing	moon drill	right waving	shiny silver hair	space bubbles
John	gravity zip	moon drill	right waving	shiny silver hair	moon cheese
Ellen	gravity zip	laser wrench	right waving	shiny silver hair	space bubbles
Valentina	plasma glide	laser wrench	left waving	bright green hair	cosmic dust
Chris	bubble float	laser wrench	left waving	shiny silver hair	space bubbles
Jessica	gravity zip	star scoop	right waving	bright green hair	cosmic dust
Orion	turbo boost	laser wrench	right waving	neon blue hair	space bubbles
Neil	plasma glide	moon drill	right waving	neon blue hair	space bubbles
Alex	plasma glide	moon drill	right waving	shiny silver hair	moon cheese
Victor	solar wing	star scoop	right waving	bright green hair	space bubbles
Peggy	plasma glide	moon drill	right waving	bright green hair	cosmic dust

CLUE 1 Addition

We count the space-packs in the room. Let us add the big packs and small packs together.

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

T 12	9	8	T 12	9	5	8	10	4	11	8	20	6	11	T 12	9	2	3	8
2	18	8	T 12	8	11	17	6	8	T 12									

$3 + 9 = \square \rightarrow \text{T}$	$8 + 9 = \square \rightarrow \text{R}$	$1 + 1 = \square \rightarrow \text{A}$	$5 + 4 = \square \rightarrow \text{H}$
$9 + 9 = \square \rightarrow \text{M}$	$1 + 4 = \square \rightarrow \text{I}$	$3 + 1 = \square \rightarrow \text{D}$	$2 + 4 = \square \rightarrow \text{N}$
$13 + 7 = \square \rightarrow \text{S}$	$6 + 5 = \square \rightarrow \text{O}$	$4 + 6 = \square \rightarrow \text{F}$	$2 + 6 = \square \rightarrow \text{E}$
$1 + 2 = \square \rightarrow \text{V}$			

Scratch space:

CLUE 2

Subtraction

Some star-rocks are missing from our bag. Subtract the ones we have left to see how many are gone.

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

T									T									T	
9	19	2	18	13	18	6	2	11	9	16	5	15	2	18	16	14	9	19	

T									T				
9	19	2	14	4	4	14	10	19	9	19	5	8	12

$14 - 5 = \square \rightarrow \boxed{\text{T}}$

$20 - 1 = \square \rightarrow \boxed{\text{H}}$

$8 - 3 = \square \rightarrow \boxed{\text{A}}$

$20 - 4 = \square \rightarrow \boxed{\text{W}}$

$3 - 1 = \square \rightarrow \boxed{\text{E}}$

$11 - 7 = \square \rightarrow \boxed{\text{R}}$

$17 - 3 = \square \rightarrow \boxed{\text{I}}$

$17 - 2 = \square \rightarrow \boxed{\text{V}}$

$15 - 2 = \square \rightarrow \boxed{\text{U}}$

$15 - 3 = \square \rightarrow \boxed{\text{D}}$

$12 - 2 = \square \rightarrow \boxed{\text{G}}$

$17 - 9 = \square \rightarrow \boxed{\text{N}}$

$19 - 1 = \square \rightarrow \boxed{\text{S}}$

$16 - 5 = \square \rightarrow \boxed{\text{C}}$

$12 - 6 = \square \rightarrow \boxed{\text{P}}$

Scratch space:

CLUE 3 Skip counting

The rocket-toys are lined up in groups of five. Let us skip count to find the total.

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

T																
65	24	8	80	26	12	12	6	26	42	9	42	8	8	10	8	9
42	8	6	110	15	16	9	21	26	15	55	130	9	65			

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 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **Z**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Scratch space:

CLUE 4 Place value

The radar screen shows a secret code. Read the tens and ones to find the number.

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

W																	
79	71	92	98	18	35	84	70	64	53	35	88	70	53	80	76	71	63

64	89	53	63	53	35	78	64	71	70	64	53	19

What number has 7 tens and 9 ones? → **W**

What number has 9 tens and 8 ones? → **O**

What number has 1 ten and 9 ones? → **P**

What number has 7 tens and 8 ones? → **T**

What number has 7 tens and 0 ones? → **S**

What number has 8 tens and 9 ones? → **A**

What number has 5 tens and 3 ones? → **I**

What number has 6 tens and 4 ones? → **H**

What number has 8 tens and 8 ones? → **Y**

What number has 1 ten and 8 ones? → **U**

What number has 7 tens and 6 ones? → **V**

What number has 9 tens and 2 ones? → **F**

What number has 6 tens and 3 ones? → **R**

What number has 3 tens and 5 ones? → **N**

What number has 8 tens and 4 ones? → **D**

What number has 7 tens and 1 one? → **E**

What number has 8 tens and 0 ones? → **L**

Scratch space:

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

We need ten moon-boots for the crew. We only have six boots. How many more do 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:

$5 + \underline{\quad} = 7$

$6 + \underline{\quad} = 17$

$10 + \underline{\quad} = 15$

$8 + \underline{\quad} = 12$

$10 + \underline{\quad} = 16$

$10 + \underline{\quad} = 18$

$4 + \underline{\quad} = 5$

$6 + \underline{\quad} = 13$

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

$9 + \underline{\quad} = 12$

$1 + \underline{\quad} = 11$

Step 2 - cross out the sentence with each answer:

1. The villain glides on a plasma glide, then digs paths with a moon drill.
2. The villain zooms with a solar wing, then digs paths with a moon drill.
3. The villain glides on a plasma glide, then unlocks safes with a cosmic key.
4. The villain glides on a plasma glide, then scoops clues with a star scoop.
5. The villain speeds up with a turbo boost, then scoops clues with a star scoop.
6. The villain speeds up with a turbo boost, then opens doors with a laser wrench.
7. The villain floats with a bubble float, then unlocks safes with a cosmic key.
8. The villain speeds up with a turbo boost, then unlocks safes with a cosmic key.
9. The villain zooms with a solar wing, then opens doors with a laser wrench.
10. The villain floats with a bubble float, then opens doors with a laser wrench.
11. The villain zips along with a gravity zip, then unlocks safes with a cosmic key.
12. The villain zips along with a gravity zip, then scoops clues with a star scoop.

Answer Key

The Astro-Base Adventure

Culprit: Nova

gravity zip · star scoop · right waving · shiny silver hair · cosmic dust

Trail: Start 21 → Clue 1 20 → Clue 2 16 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT HAVE A METEOR NET"

$3 + 9 = 12$ (T) · $8 + 9 = 17$ (R) · $1 + 1 = 2$ (A) · $5 + 4 = 9$ (H) · $9 + 9 = 18$ (M) · $1 + 4 = 5$ (I) · $3 + 1 = 4$ (D) · $2 + 4 = 6$ (N) · $13 + 7 = 20$ (S) · $6 + 5 = 11$ (O) · $4 + 6 = 10$ (F) · $2 + 6 = 8$ (E) · $1 + 2 = 3$ (V)

Clue 2 (Subtraction): "THE SUSPECT WAVES WITH THEIR RIGHT HAND"

$14 - 5 = 9$ (T) · $20 - 1 = 19$ (H) · $8 - 3 = 5$ (A) · $20 - 4 = 16$ (W) · $3 - 1 = 2$ (E) · $11 - 7 = 4$ (R) · $17 - 3 = 14$ (I) · $17 - 2 = 15$ (V) · $15 - 2 = 13$ (U) · $15 - 3 = 12$ (D) · $12 - 2 = 10$ (G) · $17 - 9 = 8$ (N) · $19 - 1 = 18$ (S) · $16 - 5 = 11$ (C) · $12 - 6 = 6$ (P)

Clue 3 (Skip counting): "THE VILLAIN SNEEZES NEAR COSMIC DUST"

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 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (Z) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (M) · Skip-count by 2s. Fill the blank: 2, 4, __, 8, 10 = 6 (A) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (R) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (I) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (N) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (U) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, __, 90, 100 = 80 (V) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, __, 60, 65 = 55 (D) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, __, 18, 21 = 15 (C) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, __, 27, 30 = 24 (H) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (L) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, __, 18, 20 = 16 (O)

Clue 4 (Place value): "WE FOUND SHINY SILVER HAIR IN THE SHIP"

What number has 7 tens and 9 ones? = 79 (W) · What number has 9 tens and 8 ones? = 98 (O) · What number has 1 ten and 9 ones? = 19 (P) · What number has 7 tens and 8 ones? = 78 (T) · What number has 7 tens and 0 ones? = 70 (S) · What number has 8 tens and 9 ones? = 89 (A) · What number has 5 tens and 3 ones? = 53 (I) · What number has 6 tens and 4 ones? = 64 (H) · What number has 8 tens and 8 ones? = 88 (Y) · What number has 1 ten and 8 ones? = 18 (U) · What number has 7 tens and 6 ones? = 76 (V) · What number has 9 tens and 2 ones? = 92 (F) · What number has 6 tens and 3 ones? = 63 (R) · What number has 3 tens and 5 ones? = 35 (N) · What number has 8 tens and 4 ones? = 84 (D) · What number has 7 tens and 1 one? = 71 (E) · What number has 8 tens and 0 ones? = 80 (L)

Clue 5 (Missing addends): surviving statement is box 12 → Nova

$5 + \underline{\quad} = 7 = 2$ · $6 + \underline{\quad} = 17 = 11$ · $10 + \underline{\quad} = 15 = 5$ · $8 + \underline{\quad} = 12 = 4$ · $10 + \underline{\quad} = 16 = 6$ · $10 + \underline{\quad} = 18 = 8$ · $4 + \underline{\quad} = 5 = 1$ · $6 + \underline{\quad} = 13 = 7$ · $10 + \underline{\quad} = 19 = 9$ · $9 + \underline{\quad} = 12 = 3$ · $1 + \underline{\quad} = 11 = 10$