



The Cosmic Caper on the Starship Copernicus

Grade 5 math · Rounding, Subtraction, Place value, Fractions of a number, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

An emergency alarm is sounding across the Starship Copernicus! A mysterious Space Bandit has sneaked into the science lab and stolen the newly discovered Saturn Diamond. It is up to you to decode the clues, track down the culprit among the crew, and save the mission!

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	COSMIC POWER	AUXILIARY GEAR	VISOR GLOW	SPACE HAIR	VULNERABILITY
Yuri Gagarin	Gravity Warping	Warp Speed Dash	Red Visor Glow	Neon Green Hair	Space Dust
Buzz Aldrin	Solar Flaring	Warp Speed Dash	Red Visor Glow	Neon Green Hair	Magnet Nets
Carl Sagan	Solar Flaring	Ion Thruster Boost	Red Visor Glow	Neon Green Hair	Space Dust
Jules Verne	Solar Flaring	Ion Thruster Boost	Blue Visor Glow	Neon Green Hair	Magnet Nets
Mae Jemison	Gravity Warping	Ion Thruster Boost	Red Visor Glow	Neon Green Hair	Space Dust
H G Wells	Gravity Warping	Telemetry Hack	Red Visor Glow	Metallic Silver Hair	Space Dust
Valentina Tereshkova	Plasma Blasting	Asteroid Shielding	Red Visor Glow	Metallic Silver Hair	Space Dust
Vera Rubin	Gravity Warping	Zero-G Floating	Red Visor Glow	Metallic Silver Hair	Space Dust
Isaac Asimov	Nebula Cloaking	Warp Speed Dash	Blue Visor Glow	Cosmic Purple Hair	Magnet Nets
Chris Hadfield	Nebula Cloaking	Warp Speed Dash	Blue Visor Glow	Neon Green Hair	Solar Flares
Peggy Whitson	Laser Cutting	Asteroid Shielding	Red Visor Glow	Metallic Silver Hair	Space Dust
Kalpana Chawla	Plasma Blasting	Ion Thruster Boost	Blue Visor Glow	Metallic Silver Hair	Space Dust
Tycho Brahe	Laser Cutting	Warp Speed Dash	Blue Visor Glow	Neon Green Hair	Space Dust
Alan Shepard	Nebula Cloaking	Asteroid Shielding	Blue Visor Glow	Neon Green Hair	Magnet Nets
Arthur Clarke	Laser Cutting	Asteroid Shielding	Blue Visor Glow	Neon Green Hair	Magnet Nets
Sally Ride	Plasma Blasting	Telemetry Hack	Red Visor Glow	Cosmic Purple Hair	Space Dust
Neil Armstrong	Nebula Cloaking	Asteroid Shielding	Blue Visor Glow	Cosmic Purple Hair	Solar Flares
John Glenn	Plasma Blasting	Warp Speed Dash	Red Visor Glow	Neon Green Hair	Space Dust
Ellen Ochoa	Nebula Cloaking	Zero-G Floating	Red Visor Glow	Metallic Silver Hair	Magnet Nets
Octavia Butler	Solar Flaring	Asteroid Shielding	Red Visor Glow	Cosmic Purple Hair	Solar Flares
Caroline Herschel	Solar Flaring	Asteroid Shielding	Red Visor Glow	Metallic Silver Hair	Space Dust

CLUE 1 Rounding

The starship's long-range scanner can only show rounded numbers for weight. Round the cargo weight to the nearest thousand to unlock the first database file.

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

T												T			
290	3700	4300	3000	430	4300	9000	430	4300	700	20	430	290	1700	700	4300

T						T							
290	4300	230	4300	90	4300	290	130	170	3700	2000	900	110	

Round 288 to the nearest ten → **T**

Round 904 to the nearest hundred → **C**

Round 234 to the nearest ten → **L**

Round 86 to the nearest ten → **M**

Round 4,339 to the nearest hundred → **E**

Round 1,995 to the nearest thousand → **A**

Round 715 to the nearest hundred → **S**

Round 428 to the nearest ten → **O**

Round 170 to the nearest ten → **Y**

Round 8,836 to the nearest thousand → **D**

Round 106 to the nearest ten → **K**

Round 1,666 to the nearest hundred → **U**

Round 3,294 to the nearest thousand → **F**

Round 127 to the nearest ten → **R**

Round 3,661 to the nearest hundred → **H**

Round 24 to the nearest ten → **N**

Scratch space:

CLUE 2 Subtraction

To open the engine room hatch, you must find the difference between the station's fuel reserves and the empty tank capacity.

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

R																			
6423	5960	2982	1423	5781	8444	3998	7666	3415	8444	4610	4610	5960	2982	8444	5314	4610	2730	5960	

2982	5960	7702	8711

8956 - 2533 = → R	8728 - 1026 = → C	9547 - 1103 = → O
6131 - 3401 = → H	7798 - 4816 = → D	5031 - 1033 = → W
11622 - 2911 = → K	2537 - 1114 = → G	8189 - 3579 = → T
9339 - 1673 = → S	7704 - 1744 = → E	10331 - 4550 = → L
5715 - 401 = → N	6425 - 3010 = → P	

Scratch space:

CLUE 3 Place value

The computer terminal demands the digit in the ten-thousands place of the spaceship's launch code to reveal the suspect's description.

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

S							S					S				
200	1000	600	4000	6000	9000	7000	200	900	4000	8000	50	300	200	900	60	6000

						S
6000	30	300	400	30	6000	200

What is the value of the 2 in 44,280? → **S**

What is the value of the 4 in 304,891? → **C**

What is the value of the 9 in 335,955? → **T**

What is the value of the 3 in 64,036? → **N**

What is the value of the 1 in 981,629? → **P**

What is the value of the 9 in 79,210? → **D**

What is the value of the 6 in 846,035? → **E**

What is the value of the 6 in 432,360? → **H**

What is the value of the 5 in 327,254? → **O**

What is the value of the 3 in 99,305? → **G**

What is the value of the 7 in 57,611? → **U**

What is the value of the 8 in 348,622? → **L**

What is the value of the 4 in 992,427? → **I**

What is the value of the 6 in 42,637? → **A**

Scratch space:

CLUE 4
Fractions of a number

The astromech droid needs to repair its solar cells. Find three-fifths of the total damaged cells to reboot its memory banks.

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

S							S							S		
18	30	8	24	23	12		18	5	12	17	33	27	18		25	40

S						S			
18	31	17	16	23	18	29	30	5	

$6/10 \text{ of } 30 = \square \rightarrow \text{S}$

$1/4 \text{ of } 160 = \square \rightarrow \text{Y}$

$6/8 \text{ of } 36 = \square \rightarrow \text{D}$

$4/6 \text{ of } 36 = \square \rightarrow \text{V}$

$3/6 \text{ of } 46 = \square \rightarrow \text{E}$

$1/6 \text{ of } 102 = \square \rightarrow \text{A}$

$5/8 \text{ of } 40 = \square \rightarrow \text{B}$

$2/6 \text{ of } 48 = \square \rightarrow \text{C}$

$1/6 \text{ of } 186 = \square \rightarrow \text{P}$

$2/6 \text{ of } 87 = \square \rightarrow \text{U}$

$5/10 \text{ of } 60 = \square \rightarrow \text{I}$

$5/10 \text{ of } 10 = \square \rightarrow \text{T}$

$1/2 \text{ of } 16 = \square \rightarrow \text{L}$

$4/5 \text{ of } 15 = \square \rightarrow \text{R}$

$1/3 \text{ of } 99 = \square \rightarrow \text{N}$

Scratch space:

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

We need to split the oxygen tanks equally among the escape pods. Divide the total tanks by the number of pods to get the final passcode.

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:

$12 \div 4 = \boxed{}$

$70 \div 7 = \boxed{}$

$36 \div 4 = \boxed{}$

$2 \div 1 = \boxed{}$

$5 \div 5 = \boxed{}$

$56 \div 8 = \boxed{}$

$60 \div 5 = \boxed{}$

$110 \div 10 = \boxed{}$

$16 \div 4 = \boxed{}$

$80 \div 10 = \boxed{}$

$60 \div 12 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain cloaks in a thick nebula cloud, then blocks laser fire with an asteroid shield.
2. The villain absorbs power from a solar flare, then floats away in zero gravity.
3. The villain absorbs power from a solar flare, then blocks laser fire with an asteroid shield.
4. The villain absorbs power from a solar flare, then boosts away using ion thrusters.
5. The villain warps gravity in the cargo bay, then blocks laser fire with an asteroid shield.
6. The villain warps gravity in the cargo bay, then floats away in zero gravity.
7. The villain cloaks in a thick nebula cloud, then dashes out of sight at warp speed.
8. The villain cuts through the airlocks with lasers, then floats away in zero gravity.
9. The villain cuts through the airlocks with lasers, then blocks laser fire with an asteroid shield.
10. The villain fires plasma blasts at the sensors, then blocks laser fire with an asteroid shield.
11. The villain fires plasma blasts at the sensors, then floats away in zero gravity.
12. The villain absorbs power from a solar flare, then dashes out of sight at warp speed.

Answer Key

The Cosmic Caper on the Starship Copernicus

Culprit: Vera Rubin

Gravity Warping · Zero-G Floating · Red Visor Glow · Metallic Silver Hair · Space Dust

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 8 → Clue 4 4 → Clue 5 1

Clue 1 (Rounding): "THE FOE DOES NOT USE TELEMETRY HACK"

Round 288 to the nearest ten = 290 (T) · Round 904 to the nearest hundred = 900 (C) · Round 234 to the nearest ten = 230 (L) · Round 86 to the nearest ten = 90 (M) · Round 4,339 to the nearest hundred = 4300 (E) · Round 1,995 to the nearest thousand = 2000 (A) · Round 715 to the nearest hundred = 700 (S) · Round 428 to the nearest ten = 430 (O) · Round 170 to the nearest ten = 170 (Y) · Round 8,836 to the nearest thousand = 9000 (D) · Round 106 to the nearest ten = 110 (K) · Round 1,666 to the nearest hundred = 1700 (U) · Round 3,294 to the nearest thousand = 3000 (F) · Round 127 to the nearest ten = 130 (R) · Round 3,661 to the nearest hundred = 3700 (H) · Round 24 to the nearest ten = 20 (N)

Clue 2 (Subtraction): "RED GLOW SPOTTED ON THE DECK"

8956 - 2533 = 6423 (R) · 8728 - 1026 = 7702 (C) · 9547 - 1103 = 8444 (O) · 6131 - 3401 = 2730 (H) · 7798 - 4816 = 2982 (D) · 5031 - 1033 = 3998 (W) · 11622 - 2911 = 8711 (K) · 2537 - 1114 = 1423 (G) · 8189 - 3579 = 4610 (T) · 9339 - 1673 = 7666 (S) · 7704 - 1744 = 5960 (E) · 10331 - 4550 = 5781 (L) · 5715 - 401 = 5314 (N) · 6425 - 3010 = 3415 (P)

Clue 3 (Place value): "SPACE DUST CLOGS THE ENGINES"

What is the value of the 2 in 44,280? = 200 (S) · What is the value of the 4 in 304,891? = 4000 (C) · What is the value of the 9 in 335,955? = 900 (T) · What is the value of the 3 in 64,036? = 30 (N) · What is the value of the 1 in 981,629? = 1000 (P) · What is the value of the 9 in 79,210? = 9000 (D) · What is the value of the 6 in 846,035? = 6000 (E) · What is the value of the 6 in 432,360? = 60 (H) · What is the value of the 5 in 327,254? = 50 (O) · What is the value of the 3 in 99,305? = 300 (G) · What is the value of the 7 in 57,611? = 7000 (U) · What is the value of the 8 in 348,622? = 8000 (L) · What is the value of the 4 in 992,427? = 400 (I) · What is the value of the 6 in 42,637? = 600 (A)

Clue 4 (Fractions of a number): "SILVER STRANDS BY SPACESUIT"

6/10 of 30 = 18 (S) · 1/4 of 160 = 40 (Y) · 6/8 of 36 = 27 (D) · 4/6 of 36 = 24 (V) · 3/6 of 46 = 23 (E) · 1/6 of 102 = 17 (A) · 5/8 of 40 = 25 (B) · 2/6 of 48 = 16 (C) · 1/6 of 186 = 31 (P) · 2/6 of 87 = 29 (U) · 5/10 of 60 = 30 (I) · 5/10 of 10 = 5 (T) · 1/2 of 16 = 8 (L) · 4/5 of 15 = 12 (R) · 1/3 of 99 = 33 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Vera Rubin

12 ÷ 4 = 3 · 70 ÷ 7 = 10 · 36 ÷ 4 = 9 · 2 ÷ 1 = 2 · 5 ÷ 5 = 1 · 56 ÷ 8 = 7 · 60 ÷ 5 = 12 · 110 ÷ 10 = 11 · 16 ÷ 4 = 4 · 80 ÷ 10 = 8 · 60 ÷ 12 = 5