The Starlight Station Heist

Grade 5 math · Place value, Addition, Subtraction, Multiplication, Division · Reading level grades 5-6

Detective: _____ **Date:** _____

Someone snuck into the observatory deck of Starlight Station Alpha and disrupted the deep space telescope. Match the clues to find out which rogue astronaut is responsible.

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.

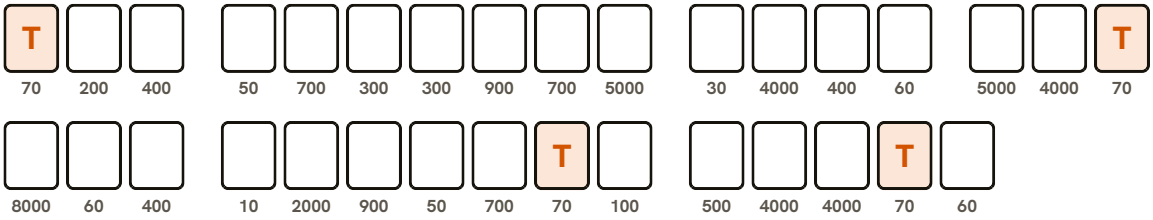
NAME	GADGET	SUIT GEAR	GLOVE MARKER	HELMET STRIPE	DISTRACTION
Engineer Ganymede	Plasma Cannon	Jetpack Boost	Left Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Captain Sol	Photon Shield	Radar Visor	Right Glove Patch	Silver Chrome Stripe	Radio Static Noise
Officer Callisto	Laser Grid	Radar Visor	Right Glove Patch	Neon Red Stripe	Solar Flare Flares
Captain Cygnus	Stasis Field	Jetpack Boost	Right Glove Patch	Silver Chrome Stripe	Solar Flare Flares
Engineer Atlas	Stasis Field	Magnetic Belt	Left Glove Patch	Neon Red Stripe	Space Dust Clumps
Agent Zenith	Photon Shield	Oxygen Pack	Right Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Commander Nova	Sonic Beacon	Oxygen Pack	Right Glove Patch	Silver Chrome Stripe	Space Dust Clumps
Ranger Oberon	Sonic Beacon	Gravity Boots	Left Glove Patch	Neon Red Stripe	Solar Flare Flares
Cadet Polaris	Sonic Beacon	Jetpack Boost	Left Glove Patch	Neon Red Stripe	Radio Static Noise
Ranger Draco	Sonic Beacon	Radar Visor	Right Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Cadet Io	Laser Grid	Gravity Boots	Right Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Dr Europa	Sonic Beacon	Jetpack Boost	Left Glove Patch	Silver Chrome Stripe	Radio Static Noise
Commander Kepler	Photon Shield	Magnetic Belt	Left Glove Patch	Cobalt Blue Stripe	Radio Static Noise
Officer Lyra	Sonic Beacon	Jetpack Boost	Right Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Pilot Cassiopeia	Photon Shield	Radar Visor	Right Glove Patch	Cobalt Blue Stripe	Radio Static Noise
Tech Titan	Laser Grid	Jetpack Boost	Right Glove Patch	Neon Red Stripe	Space Dust Clumps
Tech Vega	Plasma Cannon	Jetpack Boost	Left Glove Patch	Cobalt Blue Stripe	Radio Static Noise
Pilot Triton	Plasma Cannon	Radar Visor	Right Glove Patch	Cobalt Blue Stripe	Solar Flare Flares
Cadet Vance	Plasma Cannon	Oxygen Pack	Left Glove Patch	Neon Red Stripe	Solar Flare Flares
Officer Altair	Plasma Cannon	Gravity Boots	Left Glove Patch	Neon Red Stripe	Solar Flare Flares
Agent Phoebe	Stasis Field	Jetpack Boost	Right Glove Patch	Neon Red Stripe	Radio Static Noise

make your own at mathcrackers.com

CLUE 1 Place value

The station computer logged a security code but only revealed digits by their place values.

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



What is the value of the 7 in 23,678? ☐ → T

What is the value of the 1 in 72,130? ☐ → Y

What is the value of the 2 in 737,250? ☐ → H

What is the value of the 5 in 45,078? ☐ → N

What is the value of the 7 in 992,706? ☐ → I

What is the value of the 5 in 444,652? ☐ → V

What is the value of the 6 in 79,764? ☐ → S

What is the value of the 8 in 998,045? ☐ → U

What is the value of the 2 in 612,355? ☐ → R

What is the value of the 9 in 42,983? ☐ → A

What is the value of the 3 in 91,632? ☐ → D

What is the value of the 4 in 374,803? ☐ → O

What is the value of the 5 in 34,507? ☐ → B

What is the value of the 3 in 919,349? ☐ → L

What is the value of the 1 in 470,515? ☐ → G

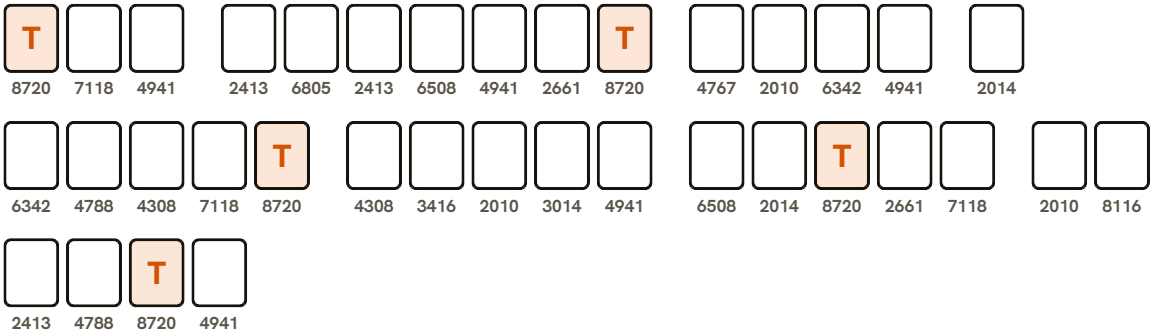
What is the value of the 4 in 129,419? ☐ → E

Scratch space:

CLUE 2 Addition

To calculate energy drained during the outage the cadet tallied up total power usage.

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



2900 + 5820 = ☐ → T

4401 + 2404 = ☐ → U

1945 + 1069 = ☐ → V

1296 + 714 = ☐ → O

2655 + 3853 = ☐ → P

2160 + 2628 = ☐ → I

1241 + 1172 = ☐ → S

4261 + 2081 = ☐ → R

5533 + 2583 = ☐ → N

2649 + 2118 = ☐ → W

1468 + 2840 = ☐ → G

2715 + 2226 = ☐ → E

1725 + 936 = ☐ → C

1054 + 2362 = ☐ → L

1353 + 661 = ☐ → A

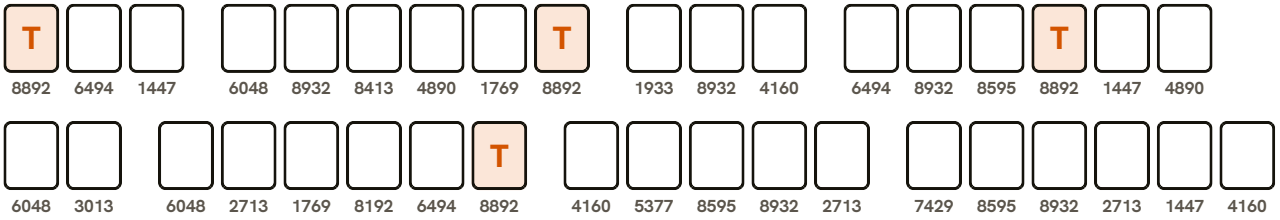
2726 + 4392 = ☐ → H

Scratch space:

CLUE 3 Subtraction

The navigation team checked how far off course the station floated by finding the difference in coordinates.

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



11523 - 2631 = ☐ → T

8319 - 127 = ☐ → G

10509 - 4461 = ☐ → B

4132 - 2685 = ☐ → E

6569 - 1192 = ☐ → O

12209 - 4780 = ☐ → F

5790 - 3077 = ☐ → R

6662 - 168 = ☐ → H

9055 - 460 = ☐ → L

11664 - 3251 = ☐ → N

4210 - 1197 = ☐ → Y

6519 - 4586 = ☐ → W

7785 - 3625 = ☐ → S

6481 - 4712 = ☐ → I

13299 - 4367 = ☐ → A

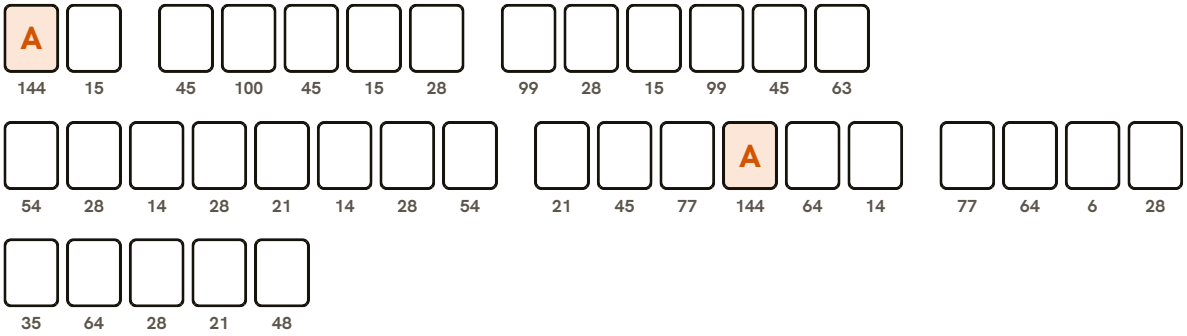
5728 - 838 = ☐ → D

Scratch space:

CLUE 4 Multiplication facts (1-12)

> The chief engineer inspected equal rows of solar panels across multiple arrays to check for damage.

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



12 × 12 = ☐ → A

4 × 12 = ☐ → K

9 × 7 = ☐ → R

8 × 8 = ☐ → L

3 × 7 = ☐ → C

2 × 3 = ☐ → U

2 × 7 = ☐ → T

9 × 6 = ☐ → D

9 × 5 = ☐ → O

7 × 11 = ☐ → B

4 × 7 = ☐ → E

11 × 9 = ☐ → S

10 × 10 = ☐ → Z

5 × 7 = ☐ → F

3 × 5 = ☐ → N

Scratch space:

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

> The science crew split the remaining emergency battery cells equally among the life support bays.

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:

9 ÷ 9 = ☐	27 ÷ 9 = ☐	64 ÷ 8 = ☐	40 ÷ 4 = ☐	32 ÷ 8 = ☐
12 ÷ 2 = ☐	56 ÷ 8 = ☐	12 ÷ 1 = ☐	90 ÷ 10 = ☐	20 ÷ 10 = ☐
33 ÷ 3 = ☐				

Step 2 - cross out the sentence with each answer:

1. The villain fired the plasma cannon, then scouted routes with a radar visor.
2. The villain jammed signals with a sonic beacon, then hooked onto beams with a magnetic belt.
3. The villain jammed signals with a sonic beacon, then escaped using a jetpack boost.
4. The villain bypassed the laser grid, then walked along walls with gravity boots.
5. The villain deflected sensors with a photon shield, then vented extra gas from an oxygen pack.
6. The villain deflected sensors with a photon shield, then walked along walls with gravity boots.
7. The villain jammed signals with a sonic beacon, then vented extra gas from an oxygen pack.
8. The villain jammed signals with a sonic beacon, then scouted routes with a radar visor.
9. The villain fired the plasma cannon, then walked along walls with gravity boots.
10. The villain activated a stasis field, then hooked onto beams with a magnetic belt.
11. The villain bypassed the laser grid, then scouted routes with a radar visor.
12. The villain bypassed the laser grid, then escaped using a jetpack boost.

TEACHER / PARENT

Answer Key

The Starlight Station Heist

Culprit: Agent Zenith

Photon Shield · Oxygen Pack · Right Glove Patch · Cobalt Blue Stripe · Solar Flare Flares

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

Clue 1 (Place value): "THE VILLAIN DOES NOT USE GRAVITY BOOTS"

What is the value of the 7 in 23,678? = 70 (T) · What is the value of the 1 in 72,130? = 100 (Y) · What is the value of the 2 in 737,250? = 200 (H) · What is the value of the 5 in 45,078? = 5000 (N) · What is the value of the 7 in 992,706? = 700 (I) · What is the value of the 5 in 444,652? = 50 (V) · What is the value of the 6 in 79,764? = 60 (S) · What is the value of the 8 in 998,045? = 8000 (U) · What is the value of the 2 in 612,355? = 2000 (R) · What is the value of the 9 in 42,983? = 900 (A) · What is the value of the 3 in 91,632? = 30 (D) · What is the value of the 4 in 374,803? = 4000 (O) · What is the value of the 5 in 34,507? = 500 (B) · What is the value of the 3 in 919,349? = 300 (L) · What is the value of the 1 in 470,515? = 10 (G) · What is the value of the 4 in 129,419? = 400 (E)

Clue 2 (Addition): "THE SUSPECT WORE A RIGHT GLOVE PATCH ON SITE"

2900 + 5820 = 8720 (T) · 4401 + 2404 = 6805 (U) · 1945 + 1069 = 3014 (V) · 1296 + 714 = 2010 (O) · 2655 + 3853 = 6508 (P) · 2160 + 2628 = 4788 (I) · 1241 + 1172 = 2413 (S) · 4261 + 2081 = 6342 (R) · 5533 + 2583 = 8116 (N) · 2649 + 2118 = 4767 (W) · 1468 + 2840 = 4308 (G) · 2715 + 2226 = 4941 (E) · 1725 + 936 = 2661 (C) · 1054 + 2362 = 3416 (L) · 1353 + 661 = 2014 (A) · 2726 + 4392 = 7118 (H)

Clue 3 (Subtraction): "THE BANDIT WAS HALTED BY BRIGHT SOLAR FLARES"

11523 - 2631 = 8892 (T) · 8319 - 127 = 8192 (G) · 10509 - 4461 = 6048 (B) · 4132 - 2685 = 1447 (E) · 6569 - 1192 = 5377 (O) · 12209 - 4780 = 7429 (F) · 5790 - 3077 = 2713 (R) · 6662 - 168 = 6494 (H) · 9055 - 460 = 8595 (L) · 11664 - 3251 = 8413 (N) · 4210 - 1197 = 3013 (Y) · 6519 - 4586 = 1933 (W) · 7785 - 3625 = 4160 (S) · 6481 - 4712 = 1769 (I) · 13299 - 4367 = 8932 (A) · 5728 - 838 = 4890 (D)

Clue 4 (Multiplication facts (1-12)): "AN OZONE SENSOR DETECTED COBALT BLUE FLECK"

12 × 12 = 144 (A) · 4 × 12 = 48 (K) · 9 × 7 = 63 (R) · 8 × 8 = 64 (L) · 3 × 7 = 21 (C) · 2 × 3 = 6 (U) · 2 × 7 = 14 (T) · 9 × 6 = 54 (D) · 9 × 5 = 45 (O) · 7 × 11 = 77 (B) · 4 × 7 = 28 (E) · 11 × 9 = 99 (S) · 10 × 10 = 100 (Z) · 5 × 7 = 35 (F) · 3 × 5 = 15 (N)

Clue 5 (Division facts (1-12)): surviving statement is box 5 → Agent Zenith

9 ÷ 9 = 1 · 27 ÷ 9 = 3 · 64 ÷ 8 = 8 · 40 ÷ 4 = 10 · 32 ÷ 8 = 4 · 12 ÷ 2 = 6 · 56 ÷ 8 = 7 · 12 ÷ 1 = 12 · 90 ÷ 10 = 9 · 20 ÷ 10 = 2 · 33 ÷ 3 = 11