The Aeros Vault Heist

Grade 6 math · Fractions of a number, Multiplication, Word problems, Multi-step word problems · Reading level grades 7-9

Detective: _____ **Date:** _____

A rogue cadet has broken into the high vault of Aeros Academy and stolen the legendary Chrono-Compass. The Head Archivist needs your navigation skills to track the thief across the Whispering Archipelago before they escape into the deep clouds.

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 Sky Rogue is _____

Possible suspects

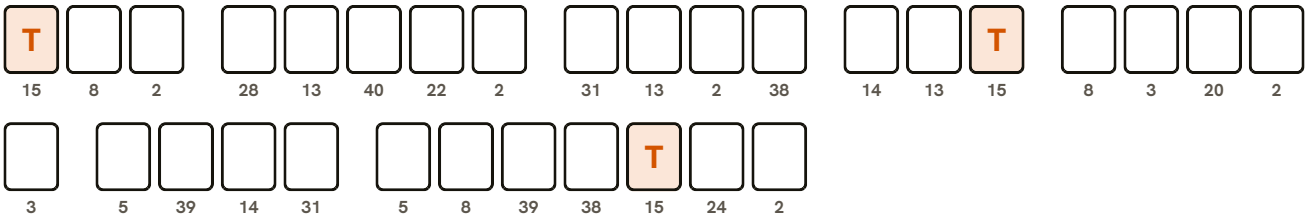
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	NAVIGATION SKILL	SKY GADGET	STEERING GRIP	GOGGLE STRAP MARK	NAVIGATIONAL FLAW
Stella Stratus	Cloud-gliding	Aero-compass	Left-handed grip	Copper dust strands	Bright sun glare
Gale Goings	Cloud-gliding	Aero-compass	Left-handed grip	Silt braided hair	Cloud fog blindness
Piper Plum	Engine-tuning	Glow-lantern	Right-handed grip	Silver wind crop	Fear of high winds
Zephyr Vance	Star-charting	Aero-compass	Right-handed grip	Silt braided hair	Bright sun glare
Zara Zenith	Wind-steering	Aero-compass	Right-handed grip	Copper dust strands	Bright sun glare
Talon Trent	Grapple-swinging	Spy-glass	Left-handed grip	Copper dust strands	Fear of high winds
Cinder Skye	Grapple-swinging	Sun-prism	Left-handed grip	Silver wind crop	Fear of high winds
Ridge Runner	Grapple-swinging	Wind-whistle	Left-handed grip	Silt braided hair	Bright sun glare
Captain Barnaby	Wind-steering	Aero-compass	Left-handed grip	Copper dust strands	Bright sun glare
Drake Drifter	Wind-steering	Sun-prism	Left-handed grip	Silver wind crop	Bright sun glare
Echo Elytra	Grapple-swinging	Glow-lantern	Left-handed grip	Silver wind crop	Bright sun glare
Aero Vance	Grapple-swinging	Glow-lantern	Left-handed grip	Silver wind crop	Cloud fog blindness
Skyler Swift	Wind-steering	Aero-compass	Left-handed grip	Copper dust strands	Cloud fog blindness
Marina Mast	Wind-steering	Glow-lantern	Left-handed grip	Copper dust strands	Bright sun glare
Dallas Dawn	Engine-tuning	Aero-compass	Left-handed grip	Copper dust strands	Bright sun glare
Saber Sterling	Wind-steering	Sun-prism	Left-handed grip	Silt braided hair	Bright sun glare
Finley Finch	Grapple-swinging	Wind-whistle	Left-handed grip	Copper dust strands	Bright sun glare
Breeze Bracken	Grapple-swinging	Aero-compass	Left-handed grip	Silt braided hair	Cloud fog blindness
Nova North	Engine-tuning	Sun-prism	Left-handed grip	Silver wind crop	Cloud fog blindness
Rocco Ridge	Engine-tuning	Sun-prism	Right-handed grip	Silver wind crop	Cloud fog blindness
Orion Osprey	Engine-tuning	Wind-whistle	Right-handed grip	Silt braided hair	Cloud fog blindness

CLUE 1 Fractions of a number

> The Academy map room was left in ruins, with only a fraction of the original flight plans remaining intact. Let us calculate how many charts are left to find our first lead.

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



1/3 of 45 = ☐ → T

3/6 of 26 = ☐ → O

1/4 of 156 = ☐ → I

2/10 of 155 = ☐ → D

2/6 of 42 = ☐ → N

2/10 of 190 = ☐ → S

2/10 of 120 = ☐ → L

4/10 of 55 = ☐ → U

2/4 of 16 = ☐ → H

1/10 of 30 = ☐ → A

2/3 of 30 = ☐ → V

5/6 of 6 = ☐ → W

2/10 of 10 = ☐ → E

1/5 of 140 = ☐ → R

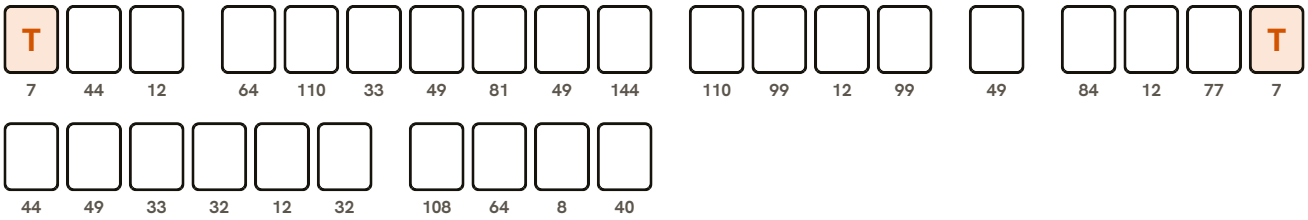
4/5 of 50 = ☐ → G

Scratch space:

CLUE 2 Multiplication facts (1-12)

> To catch the rogue, we must load the pursuit vessel with crates of aero-fuel, which are packed in neat, identical rows. Solving the total count reveals a hidden steering grip.

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



7 × 1 = ☐ → T	12 × 7 = ☐ → L	4 × 8 = ☐ → D	
4 × 11 = ☐ → H	3 × 11 = ☐ → N	10 × 4 = ☐ → P	
11 × 7 = ☐ → F	11 × 10 = ☐ → U	7 × 7 = ☐ → A	
12 × 9 = ☐ → G	12 × 12 = ☐ → Y	9 × 9 = ☐ → W	
8 × 1 = ☐ → I	8 × 8 = ☐ → R	4 × 3 = ☐ → E	9 × 11 = ☐ → S

Scratch space:

CLUE 3 Word problems

> A local cloud-dock merchant saw someone fleeing and dropped a satchel of tools. By figuring out the weight of the dropped gear, we can identify the rogue's weakness.

Solve each problem, then write its letter in the boxes to fill in the missing word.

Someone scared the villain off with

B							U	N		L	A		E	.
21	58	68	84	64	23	101			84			58		

There were 48 grapple-hook. 27 were used up. How many grapple-hook are left?

Answer: ☐ → **B**

Cadet found 22 wind-gauge yesterday and 46 more today. How many wind-gauge in all?

Answer: ☐ → **I**

There were 103 wind-gauge. 39 were used up. How many wind-gauge are left?

Answer: ☐ → **H**

Cadet found 37 wind-gauge yesterday and 21 more today. How many wind-gauge in all?

Answer: ☐ → **R**

There were 63 aero-compass. 40 were used up. How many aero-compass are left?

Answer: ☐ → **T**

There were 106 propeller-blade. 5 were used up. How many propeller-blade are left?

Answer: ☐ → **S**

Cadet lined up 12 rows of 7 wind-gauge. How many wind-gauge in all?

Answer: ☐ → **G**

Scratch space:

CLUE 4 Multi-step word problems

> The rogue fled across three distinct wind currents, burning fuel at different rates and changing altitude along the way. Work out the final fuel reserves to trace their hair color.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A strand of

C								S	T	S	T		A	N		S
41	83	59	59	61	38	9	74					38			9	

hair turned up at the scene.

Cadet collected 97 grapple-hook in the morning and 26 grapple-hook in the afternoon, then split them equally among 3 Aeros Academy. How many grapple-hook did each get?

Answer: ☐ → **C**

Cadet collected 81 propeller-blade in the morning and 163 propeller-blade in the afternoon, then split them equally among 4 Aeros Academy. How many propeller-blade did each get?

Answer: ☐ → **E**

There were 40 wind-gauge in all. 4 wind-gauge were set aside. The rest were shared equally among 4 Aeros Academy. How many wind-gauge did each get?

Answer: ☐ → **D**

There were 267 sky-goggles in all. 1 Aeros Academy used 31 sky-goggles each. The other 4 Aeros Academy shared the rest equally. How many sky-goggles did each of the other Aeros Academy get?

Answer: ☐ → **P**

Cadet collected 39 sky-goggles in the morning and 113 sky-goggles in the afternoon, then split them equally among 4 Aeros Academy. How many sky-goggles did each get?

Answer: ☐ → **R**

There were 356 aero-compass in all. 24 aero-compass were set aside. The rest were shared equally among 4 Aeros Academy. How many aero-compass did each get?

Answer: ☐ → **O**

Cadet collected 56 propeller-blade in the morning and 388 propeller-blade in the afternoon, then split them equally among 6 Aeros Academy. How many propeller-blade did each get?

Answer: ☐ → **U**

Scratch space:

CLUE 5 Fractions of a number - the last clue

> We recovered a cracked sky-crystal from the getaway launchpad. Calculating the remaining fraction of its power grid will tell us which gadget the thief left behind.

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:

1/10 of 70 = ☐	2/4 of 8 = ☐	2/8 of 32 = ☐	1/3 of 3 = ☐
1/5 of 45 = ☐	2/6 of 33 = ☐	1/2 of 6 = ☐	1/6 of 12 = ☐
1/2 of 20 = ☐	3/6 of 24 = ☐	2/4 of 10 = ☐	

Step 2 - cross out the sentence with each answer:

1. The villain tuned the engines to maximum speed, then spotted the distant patrol with a spy glass.
2. The villain tuned the engines to maximum speed, then blinded the guards with a sun prism.
3. The villain charted a direct course using the stars, then spotted the distant patrol with a spy glass.
4. The villain tuned the engines to maximum speed, then checked their bearings with an aero compass.
5. The villain charted a direct course using the stars, then summoned a gust using a wind whistle.
6. The villain steered the airship through a narrow canyon, then checked their bearings with an aero compass.
7. The villain steered the airship through a narrow canyon, then lit up the dark cavern with a glow lantern.
8. The villain glided silently between the clouds, then checked their bearings with an aero compass.
9. The villain tuned the engines to maximum speed, then summoned a gust using a wind whistle.
10. The villain swung across the sky docks with a grapple, then summoned a gust using a wind whistle.
11. The villain charted a direct course using the stars, then lit up the dark cavern with a glow lantern.
12. The villain steered the airship through a narrow canyon, then spotted the distant patrol with a spy glass.

TEACHER / PARENT

Answer Key

The Aeros Vault Heist

Culprit: Captain Barnaby

Wind-steering · Aero-compass · Left-handed grip · Copper dust strands · Bright sun glare

Trail: Start 21 → Clue 1 18 → Clue 2 14 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE ROGUE DOES NOT HAVE A WIND WHISTLE"

1/3 of 45 = 15 (T) · 3/6 of 26 = 13 (O) · 1/4 of 156 = 39 (I) · 2/10 of 155 = 31 (D) · 2/6 of 42 = 14 (N) · 2/10 of 190 = 38 (S) · 2/10 of 120 = 24 (L) · 4/10 of 55 = 22 (U) · 2/4 of 16 = 8 (H) · 1/10 of 30 = 3 (A) · 2/3 of 30 = 20 (V) · 5/6 of 6 = 5 (W) · 2/10 of 10 = 2 (E) · 1/5 of 140 = 28 (R) · 4/5 of 50 = 40 (G)

Clue 2 (Multiplication facts (1-12)): "THE RUNAWAY USES A LEFT HANDED GRIP"

7 × 1 = 7 (T) · 12 × 7 = 84 (L) · 4 × 8 = 32 (D) · 4 × 11 = 44 (H) · 3 × 11 = 33 (N) · 10 × 4 = 40 (P) · 11 × 7 = 77 (F) · 11 × 10 = 110 (U) · 7 × 7 = 49 (A) · 12 × 9 = 108 (G) · 12 × 12 = 144 (Y) · 9 × 9 = 81 (W) · 8 × 1 = 8 (I) · 8 × 8 = 64 (R) · 4 × 3 = 12 (E) · 9 × 11 = 99 (S)

Clue 3 (Word problems): "BRIGHT SUN GLARE"

There were 48 grapple-hook. 27 were used up. How many grapple-hook are left? = 21 (B) · Cadet found 22 wind-gauge yesterday and 46 more today. How many wind-gauge in all? = 68 (I) · There were 103 wind-gauge. 39 were used up. How many wind-gauge are left? = 64 (H) · Cadet found 37 wind-gauge yesterday and 21 more today. How many wind-gauge in all? = 58 (R) · There were 63 aero-compass. 40 were used up. How many aero-compass are left? = 23 (T) · There were 106 propeller-blade. 5 were used up. How many propeller-blade are left? = 101 (S) · Cadet lined up 12 rows of 7 wind-gauge. How many wind-gauge in all? = 84 (G)

Clue 4 (Multi-step word problems): "COPPER DUST STRANDS"

Cadet collected 97 grapple-hook in the morning and 26 grapple-hook in the afternoon, then split them equally among 3 Aeros Academy. How many grapple-hook did each get? = 41 (C) · Cadet collected 81 propeller-blade in the morning and 163 propeller-blade in the afternoon, then split them equally among 4 Aeros Academy. How many propeller-blade did each get? = 61 (E) · There were 40 wind-gauge in all. 4 wind-gauge were set aside. The rest were shared equally among 4 Aeros Academy. How many wind-gauge did each get? = 9 (D) · There were 267 sky-goggles in all. 1 Aeros Academy used 31 sky-goggles each. The other 4 Aeros Academy shared the rest equally. How many sky-goggles did each of the other Aeros Academy get? = 59 (P) · Cadet collected 39 sky-goggles in the morning and 113 sky-goggles in the afternoon, then split them equally among 4 Aeros Academy. How many sky-goggles did each get? = 38 (R) · There were 356 aero-compass in all. 24 aero-compass were set aside. The rest were shared equally among 4 Aeros Academy. How many aero-compass did each get? = 83 (O) · Cadet collected 56 propeller-blade in the morning and 388 propeller-blade in the afternoon, then split them equally among 6 Aeros Academy. How many propeller-blade did each get? = 74 (U)

Clue 5 (Fractions of a number): surviving statement is box 6 → Captain Barnaby

1/10 of 70 = 7 · 2/4 of 8 = 4 · 2/8 of 32 = 8 · 1/3 of 3 = 1 · 1/5 of 45 = 9 · 2/6 of 33 = 11 · 1/2 of 6 = 3 · 1/6 of 12 = 2 · 1/2 of 20 = 10 · 3/6 of 24 = 12 · 2/4 of 10 = 5