



The Cloud-Cruiser Caper

Grade 1 math · Place value, Addition, Subtraction, Word problems, Missing addends · Reading level grades 7-9

Detective: _____ Date: _____

A rogue sky-pirate has stolen the legendary Chronos Gear, the vital engine keeping our floating home stable in the troposphere. The Great Clockwork Lighthouse has gone dark, and Aethelgard is slowly drifting toward the storm barrier. Detective, we must inspect the visiting airship captains and find the thief before the wind takes us!

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 rogue sky-pirate is _____

Possible suspects

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

NAME	AIRSHIP SPECIALTY	SIGNATURE GADGET	SOOT STAIN	GOGGLE STRAP TYPE	ENGINE ALLERGY
Wallace Steam	Wind-sail gliding	Pocket chronometer	Soot on left sleeve	Leather strap	Oil vapour coughs
Clara Windward	Storm-harnessing	Brass spyglass	Soot on left sleeve	Leather strap	Oil vapour coughs
Alistair Bolt	Storm-harnessing	Steam-powered grapple	Soot on left sleeve	Brass-mesh strap	Coal dust sneezes
Captain Barnaby Vance	Cloud-veil cloaking	Magnetic boots	Soot on right sleeve	Leather strap	Coal dust sneezes
Felix Flywheel	Grapple-hook boarding	Brass spyglass	Soot on right sleeve	Brass-mesh strap	Oil vapour coughs
Cordelia Finch	Grapple-hook boarding	Steam-powered grapple	Soot on left sleeve	Velvet-lined strap	Oil vapour coughs
Gideon Geary	Steam-thruster piloting	Steam-powered grapple	Soot on left sleeve	Brass-mesh strap	Copper-polish rash
Matilda Piston	Grapple-hook boarding	Pocket chronometer	Soot on left sleeve	Velvet-lined strap	Coal dust sneezes
Rupert Rivet	Grapple-hook boarding	Steam-powered grapple	Soot on left sleeve	Leather strap	Oil vapour coughs
Silas Pendelton	Grapple-hook boarding	Brass spyglass	Soot on left sleeve	Brass-mesh strap	Copper-polish rash
Quentin Turbine	Cloud-veil cloaking	Magnetic boots	Soot on right sleeve	Velvet-lined strap	Oil vapour coughs
Hector Hawke	Grapple-hook boarding	Steam-powered grapple	Soot on left sleeve	Leather strap	Coal dust sneezes
Phoebe Copper	Cloud-veil cloaking	Magnetic boots	Soot on right sleeve	Leather strap	Oil vapour coughs
Beatrice Brass	Storm-harnessing	Steam-powered grapple	Soot on left sleeve	Velvet-lined strap	Copper-polish rash
Jasper Ironwood	Storm-harnessing	Magnetic boots	Soot on left sleeve	Brass-mesh strap	Copper-polish rash
Martha Gasket	Cloud-veil cloaking	Magnetic boots	Soot on left sleeve	Velvet-lined strap	Coal dust sneezes
Orson Zephyr	Cloud-veil cloaking	Pocket chronometer	Soot on left sleeve	Velvet-lined strap	Oil vapour coughs
Sybil Tempest	Steam-thruster piloting	Pocket chronometer	Soot on right sleeve	Velvet-lined strap	Oil vapour coughs
Miranda Gale	Cloud-veil cloaking	Copper glider-pack	Soot on left sleeve	Leather strap	Oil vapour coughs
Thaddeus Cloud	Cloud-veil cloaking	Steam-powered grapple	Soot on left sleeve	Leather strap	Oil vapour coughs
Leopold Rust	Steam-thruster piloting	Copper glider-pack	Soot on left sleeve	Leather strap	Copper-polish rash

CLUE 1 Place value

We recovered a damaged logbook from the lighthouse docks. Deciphering the place value of the digits in the corrupted system coordinates reveals our first clue.

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

T																T
26	44	63	96	82	76	76	51	82	81	22	46	63	86	81	46	26
44	51	96	63	51	39	76	82	22	63	32	98	51	29	83		

What number has 2 tens and 6 ones? → **T**

What number has 9 tens and 6 ones? → **V**

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

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

What number has 3 tens and 2 ones? → **R**

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

What number has 8 tens and 6 ones? → **S**

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

What number has 5 tens and 1 one? → **A**

What number has 8 tens and 2 ones? → **I**

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

What number has 2 tens and 2 ones? → **D**

What number has 3 tens and 9 ones? → **G**

What number has 8 tens and 3 ones? → **K**

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

What number has 8 tens and 1 one? → **N**

Scratch space:

CLUE 2

While searching the escape path, we found several abandoned cargo manifests. Adding up the total weight of the discarded coal crates points us to a crucial piece of evidence.

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

Diagram illustrating a sequence of numbers arranged in two rows of boxes. The top row contains 15 boxes with values: 19, 6, 5, 8, 12, 10, 10, 11, 12, 14, 6, 11, 9, 7, 17, 17, 19, 17, 14. The bottom row contains 15 boxes with values: 19, 6, 5, 12, 3, 10, 5, 4, 19, 7, 10, 5, 5, 8, 5. The boxes containing the value 19 are highlighted in orange.

$6 + 13 = \boxed{} \rightarrow \boxed{\text{T}}$

$1 + 4 = \boxed{} \rightarrow \boxed{\text{E}}$

$$5 + 2 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$1 + 3 = \square \rightarrow \boxed{\text{F}}$

$3 + 3 = \square \rightarrow \boxed{\text{H}}$

$1 + 2 = \boxed{} \rightarrow \boxed{\text{R}}$

$8 + 6 = \square \rightarrow \boxed{\text{N}}$

$3 + 6 = \square \rightarrow \boxed{\text{D}}$

7 + 10 = →

$4 + 6 = \square \rightarrow \boxed{\text{L}}$

$3 + 5 = \square \rightarrow \boxed{\mathbf{V}}$

$7 + 5 = \square \rightarrow \boxed{1}$

$7 + 4 = \square \rightarrow \boxed{\mathbf{A}}$

Scratch space:

CLUE 3

Subtraction

The lighthouse boiler pressure has dropped significantly. By subtracting the current pressure from the standard operating levels, we calculated the exact time the thief fled.

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

T																		
16	5	13	19	8	11	11	6	8	17	5	6	7	13	17	15	8	17	13
18	8	11	19	6	10	18	9	14	12	18	9	15	5	4				

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

$17 - 5 = \square \rightarrow \boxed{\text{C}}$

$17 - 6 = \square \rightarrow \boxed{\text{L}}$

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

$15 - 8 = \square \rightarrow \boxed{\text{D}}$

$18 - 1 = \square \rightarrow \boxed{\text{N}}$

$17 - 8 = \square \rightarrow \boxed{\text{U}}$

$8 - 4 = \square \rightarrow \boxed{\text{S}}$

$10 - 5 = \square \rightarrow \boxed{\text{H}}$

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

$12 - 4 = \square \rightarrow \boxed{\text{I}}$

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

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

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

$18 - 4 = \square \rightarrow \boxed{\text{R}}$

$18 - 5 = \square \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 4 Word problems

A local sky-merchant saw the thief fleeing across the rooftops and described their pace. Solving the merchant's puzzle about flight speed and travel times gives us a major breakthrough.

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

A strand of

L											P
---	--	--	--	--	--	--	--	--	--	--	---

 hair turned up at the scene.

The Quartermaster lined up 5 rows of 7 rivet hammers. How many rivet hammers in all?

Answer: → **L**

There were 43 brass gears. 5 were used up. How many brass gears are left?

Answer: → **S**

The Quartermaster found 22 brass gears yesterday and 2 more today. How many brass gears in all?

Answer: → **R**

The Quartermaster found 13 steam valves yesterday and 12 more today. How many steam valves in all?

Answer: → **H**

The Quartermaster found 7 brass gears yesterday and 12 more today. How many brass gears in all?

Answer: → **T**

The Quartermaster lined up 2 rows of 3 brass gears. How many brass gears in all?

Answer: → **A**

The Quartermaster found 26 coal shovels yesterday and 2 more today. How many coal shovels in all?

Answer: → **E**

Scratch space:

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

We found a broken gear train near the main safe with several missing teeth. Calculating the missing number of gears needed to complete the circuit unlocks the final clue.

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:

$8 + \underline{\quad} = 13$

$2 + \underline{\quad} = 5$

$7 + \underline{\quad} = 16$

$9 + \underline{\quad} = 21$

$7 + \underline{\quad} = 18$

$2 + \underline{\quad} = 3$

$9 + \underline{\quad} = 17$

$9 + \underline{\quad} = 13$

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

$3 + \underline{\quad} = 5$

$10 + \underline{\quad} = 20$

Step 2 - cross out the sentence with each answer:

1. The villain deployed a giant wind-sail to glide over the rooftops, then swung down using a steam-powered grapple.
2. The villain deployed a giant wind-sail to glide over the rooftops, then soared away using a copper glider-pack.
3. The villain fired a heavy grapple-hook onto the lighthouse balcony, then swung down using a steam-powered grapple.
4. The villain activated a cloud-veil cloaking device, then checked a pocket chronometer to time the escape.
5. The villain deployed a giant wind-sail to glide over the rooftops, then checked a pocket chronometer to time the escape.
6. The villain fired a heavy grapple-hook onto the lighthouse balcony, then clattered across the metal hull in magnetic boots.
7. The villain activated a cloud-veil cloaking device, then swung down using a steam-powered grapple.
8. The villain activated a cloud-veil cloaking device, then clattered across the metal hull in magnetic boots.
9. The villain harnessed the energy of a passing storm, then peered through a brass spyglass to spy on the guards.
10. The villain steered a steam-thruster airship through the docks, then peered through a brass spyglass to spy on the guards.
11. The villain deployed a giant wind-sail to glide over the rooftops, then clattered across the metal hull in magnetic boots.
12. The villain activated a cloud-veil cloaking device, then peered through a brass spyglass to spy on the guards.

Answer Key

The Cloud-Cruiser Caper

Culprit: Thaddeus Cloud

Cloud-veil cloaking · Steam-powered grapple · Soot on left sleeve · Leather strap · Oil vapour coughs

Trail: Start 21 → Clue 1 19 → Clue 2 14 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT HAVE A GLIDER PACK"

What number has 2 tens and 6 ones? = 26 (T) · What number has 9 tens and 6 ones? = 96 (V) · What number has 9 tens and 8 ones? = 98 (P) · What number has 2 tens and 9 ones? = 29 (C) · What number has 3 tens and 2 ones? = 32 (R) · What number has 4 tens and 6 ones? = 46 (O) · What number has 8 tens and 6 ones? = 86 (S) · What number has 6 tens and 3 ones? = 63 (E) · What number has 5 tens and 1 one? = 51 (A) · What number has 8 tens and 2 ones? = 82 (I) · What number has 7 tens and 6 ones? = 76 (L) · What number has 2 tens and 2 ones? = 22 (D) · What number has 3 tens and 9 ones? = 39 (G) · What number has 8 tens and 3 ones? = 83 (K) · What number has 4 tens and 4 ones? = 44 (H) · What number has 8 tens and 1 one? = 81 (N)

Clue 2 (Addition): "THE VILLAIN HAD SOOT ON THEIR LEFT SLEEVE"

$6 + 13 = 19$ (T) · $1 + 4 = 5$ (E) · $5 + 2 = 7$ (S) · $1 + 3 = 4$ (F) · $3 + 3 = 6$ (H) · $1 + 2 = 3$ (R) · $8 + 6 = 14$ (N) · $3 + 6 = 9$ (D) · $7 + 10 = 17$ (O) · $4 + 6 = 10$ (L) · $3 + 5 = 8$ (V) · $7 + 5 = 12$ (I) · $7 + 4 = 11$ (A)

Clue 3 (Subtraction): "THE VILLAIN HAD ENGINE OIL VAPOUR COUGHS"

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

Clue 4 (Word problems): "LEATHER STRAP"

The Quartermaster lined up 5 rows of 7 rivet hammers. How many rivet hammers in all? = 35 (L) · There were 43 brass gears. 5 were used up. How many brass gears are left? = 38 (S) · The Quartermaster found 22 brass gears yesterday and 2 more today. How many brass gears in all? = 24 (R) · The Quartermaster found 13 steam valves yesterday and 12 more today. How many steam valves in all? = 25 (H) · The Quartermaster found 7 brass gears yesterday and 12 more today. How many brass gears in all? = 19 (T) · The Quartermaster lined up 2 rows of 3 brass gears. How many brass gears in all? = 6 (A) · The Quartermaster found 26 coal shovels yesterday and 2 more today. How many coal shovels in all? = 28 (E)

Clue 5 (Missing addends): surviving statement is box 7 → Thaddeus Cloud

$8 + \underline{\quad} = 13 = 5$ · $2 + \underline{\quad} = 5 = 3$ · $7 + \underline{\quad} = 16 = 9$ · $9 + \underline{\quad} = 21 = 12$ · $7 + \underline{\quad} = 18 = 11$ · $2 + \underline{\quad} = 3 = 1$ · $9 + \underline{\quad} = 17 = 8$ · $9 + \underline{\quad} = 13 = 4$ · $10 + \underline{\quad} = 16 = 6$ · $3 + \underline{\quad} = 5 = 2$ · $10 + \underline{\quad} = 20 = 10$