



The Cloud Haven Compass Heist

Grade 4 math · Place value, Rounding, Addition, Subtraction, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

A rogue airship captain has swiped the Golden Compass! Without it, our ships will get lost in the heavy storm clouds. It is up to you to track down the thief and save the day.

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 captain is _____

Possible suspects

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

NAME	AIRSHIP GEAR	SKY GADGET	STEERING HAND	HAT COLOR	FAVORITE SNACK
Captain Cabot	cloud anchor	map decoder	right handed steering	brown leather cap	crunchy sky apples
Captain Morgan	wind glider	pocket sundial	right handed steering	red bandana	sweet honey biscuits
Captain Polo	steam booster	mini compass	left handed steering	blue tricorn hat	sweet honey biscuits
Captain Hudson	cloud anchor	storm whistle	left handed steering	red bandana	sweet honey biscuits
Captain Zheng	grappling hook	mini compass	left handed steering	red bandana	sweet honey biscuits
Captain Erikson	brass spyglass	spark lantern	left handed steering	red bandana	sweet honey biscuits
Captain Raleigh	wind glider	map decoder	left handed steering	brown leather cap	crunchy sky apples
Captain Balboa	grappling hook	pocket sundial	right handed steering	red bandana	sweet honey biscuits
Captain Magellan	brass spyglass	pocket sundial	right handed steering	brown leather cap	crunchy sky apples
Captain Bonny	steam booster	storm whistle	left handed steering	red bandana	crunchy sky apples
Captain Cook	grappling hook	map decoder	right handed steering	blue tricorn hat	salty dried kelp
Captain Barnaby	grappling hook	mini compass	right handed steering	red bandana	salty dried kelp
Captain Lewis	cloud anchor	spark lantern	right handed steering	blue tricorn hat	crunchy sky apples
Captain Peary	steam booster	mini compass	left handed steering	red bandana	crunchy sky apples
Captain Cartier	grappling hook	pocket sundial	right handed steering	blue tricorn hat	crunchy sky apples
Captain Drake	cloud anchor	spark lantern	left handed steering	blue tricorn hat	sweet honey biscuits
Captain Clark	cloud anchor	mini compass	right handed steering	red bandana	salty dried kelp
Captain Avery	brass spyglass	mini compass	left handed steering	red bandana	sweet honey biscuits
Captain Kidd	cloud anchor	mini compass	right handed steering	red bandana	crunchy sky apples
Captain De Soto	grappling hook	spark lantern	left handed steering	red bandana	sweet honey biscuits
Captain Tasman	steam booster	storm whistle	left handed steering	blue tricorn hat	crunchy sky apples

CLUE 1 Place value

To unlock the cabin door, we must enter a code. The keypad uses place value clues to reveal the secret numbers.

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

70 60 6000 500 900 500 3000 6000 200 70 9000 4000 6000 500 600 4000 70

900 500 6000 30 500 70 4000 7000 10 300 60 50 500 70 90 6000

What is the value of the 7 in 470?

A diagram illustrating a transition. On the left is a rounded rectangle. An arrow points from this rectangle to another rounded rectangle on the right, which contains the letter 'T'.

What is the value of the 3 in 3,000?

A diagram consisting of a rectangular box on the left, followed by a right-pointing arrow, and then another rectangular box on the right containing the letter 'P'.

What is the value of the 6 in 681?

A diagram showing a mapping from an empty box to a box labeled **N**. The mapping is indicated by a right-pointing arrow.

What is the value of the 6 in 46,554?

? →

What is the value of the 3 in 536?

A diagram showing a mapping from an empty box to a box labeled 'A'. An arrow points from an empty box on the left to a box containing the letter 'A' on the right.

What is the value of the 7 in 7,636?

What is the value of the 9 in 69,386?

6? $\rightarrow$

What is the value of the 5 in 8,599?

99? →

What is the value of the 3 in 385?

A diagram showing a box with a question mark pointing to a box with the letter W.

What is the value of the 2 in 238?

→ **C**

What is the value of the 9 in 392?

A diagram illustrating a transition. On the left is a simple rectangular box. An arrow points from this box to a second box on the right. The second box is thicker and contains the letter 'L'.

What is the value of the 6 in 267?

A diagram showing a box with an arrow pointing to a box containing the letter H.

What is the value of the 1 in 612?

A diagram showing a mapping from an empty box to a box labeled 'M'. An arrow points from an empty box on the left to a box containing the letter 'M' on the right.

What is the value of the 4 in 4,262?

A diagram showing a transition from an empty box to a box containing the letter 'O'. The first box is empty, followed by a right-pointing arrow, and then a second box containing the letter 'O'.

What is the value of the 5 in 1,358?

? $\rightarrow$

What is the value of the 9 in 4,986?

5? → ☒

Scratch space:

CLUE 2 Rounding

Our sky radar is fuzzy because of the storm. It only shows rounded numbers for the distance to the pirate hideout.

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

T 70	7000	200	2900	7000	290	200	370	5000	130	170	T 70	7000	200	700			
5000	T 70	200	200	30	170	290	T 70	7000	T 70	7000	200	290	30	900	200	370	T 70
7000	130	2300	500														

Round 73 to the nearest ten → **T**

Round 712 to the nearest hundred → **M**

Round 127 to the nearest ten → **A**

Round 170 to the nearest ten → **W**

Round 2,861 to the nearest hundred → **C**

Round 291 to the nearest ten → **I**

Round 172 to the nearest hundred → **E**

Round 34 to the nearest ten → **R**

Round 6,608 to the nearest thousand → **H**

Round 895 to the nearest hundred → **L**

Round 374 to the nearest ten → **F**

Round 4,851 to the nearest thousand → **S**

Round 510 to the nearest hundred → **D**

Round 2,318 to the nearest hundred → **N**

Scratch space:

CLUE 3 Addition

We found a big pile of stolen cargo boxes on the wooden dock. Adding up the total boxes will lead us to the suspect.

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

W													W				
2478	6243	7134	4901	4127	3549	6464	6712	5156	2808	5097	8024	4417	6712	2478	6243	6243	5156
8866	4901	3549	6243	4417	2808	3549	5156	8866	6243	5097	2683	3808	2808	3549			

$1170 + 1308 = \square \rightarrow \text{W}$	$4450 + 2262 = \square \rightarrow \text{S}$	$1223 + 1585 = \square \rightarrow \text{I}$
$2527 + 1600 = \square \rightarrow \text{U}$	$1488 + 2929 = \square \rightarrow \text{Y}$	$2080 + 3017 = \square \rightarrow \text{C}$
$2718 + 4416 = \square \rightarrow \text{F}$	$1379 + 2429 = \square \rightarrow \text{B}$	$4304 + 2160 = \square \rightarrow \text{D}$
$2223 + 2933 = \square \rightarrow \text{T}$	$904 + 1779 = \square \rightarrow \text{A}$	$3918 + 4106 = \square \rightarrow \text{K}$
$4751 + 4115 = \square \rightarrow \text{H}$	$2489 + 3754 = \square \rightarrow \text{E}$	$2945 + 1956 = \square \rightarrow \text{O}$
$2462 + 1087 = \square \rightarrow \text{N}$		

Scratch space:

CLUE 4 Subtraction

The thief dumped heavy gear to make their airship lighter. If we subtract the remaining weight, we can find out what they dropped.

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

A					A			A		A		A						
1750	7204	7003	8511	8556	1750	8668	8511	1750	8668	1750	1839	1750	4280	4280	8247	4565	8427	5651

					A							
8247	3441	8247	7121	7003	4280	1750	4453	3182	7204	3441	1565	7003

$3321 - 1571 = \square \rightarrow \text{A}$	$4570 - 2731 = \square \rightarrow \text{W}$	$10047 - 2843 = \square \rightarrow \text{R}$
$11206 - 4085 = \square \rightarrow \text{H}$	$9994 - 1438 = \square \rightarrow \text{B}$	$8699 - 188 = \square \rightarrow \text{D}$
$2773 - 1208 = \square \rightarrow \text{P}$	$4704 - 1522 = \square \rightarrow \text{L}$	$7094 - 2814 = \square \rightarrow \text{S}$
$5391 - 826 = \square \rightarrow \text{U}$	$11919 - 3492 = \square \rightarrow \text{C}$	$7271 - 1620 = \square \rightarrow \text{K}$
$10860 - 2613 = \square \rightarrow \text{T}$	$11424 - 2756 = \square \rightarrow \text{N}$	$8532 - 1529 = \square \rightarrow \text{E}$
$4410 - 969 = \square \rightarrow \text{O}$	$8046 - 3593 = \square \rightarrow \text{I}$	

Scratch space:

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

The search team found a chest of gold coins. Splitting the coins equally among the crewmates will help us decode the final message.

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:

$30 \div 10 = \boxed{}$

$45 \div 9 = \boxed{}$

$72 \div 6 = \boxed{}$

$36 \div 4 = \boxed{}$

$6 \div 3 = \boxed{}$

$12 \div 12 = \boxed{}$

$70 \div 7 = \boxed{}$

$8 \div 2 = \boxed{}$

$72 \div 12 = \boxed{}$

$32 \div 4 = \boxed{}$

$63 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain soared off with a wind glider, then measured the sunlight with a pocket sundial.
2. The villain zoomed away using a steam booster, then decoded the escape route with a map decoder.
3. The villain peered through a brass spyglass, then lit the dark sky with a spark lantern.
4. The villain dropped down a heavy cloud anchor, then decoded the escape route with a map decoder.
5. The villain swung away on a grappling hook, then checked the heading on a mini compass.
6. The villain dropped down a heavy cloud anchor, then blew a loud warning on a storm whistle.
7. The villain soared off with a wind glider, then blew a loud warning on a storm whistle.
8. The villain dropped down a heavy cloud anchor, then measured the sunlight with a pocket sundial.
9. The villain soared off with a wind glider, then lit the dark sky with a spark lantern.
10. The villain zoomed away using a steam booster, then blew a loud warning on a storm whistle.
11. The villain swung away on a grappling hook, then lit the dark sky with a spark lantern.
12. The villain peered through a brass spyglass, then checked the heading on a mini compass.

Answer Key

The Cloud Haven Compass Heist

Culprit: Captain De Soto

grappling hook · spark lantern · left handed steering · red bandana · sweet honey biscuits

Trail: Start 21 → Clue 1 18 → Clue 2 8 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE SUSPECT DOES NOT USE A STORM WHISTLE"

What is the value of the 7 in 470? = 70 (T) · What is the value of the 3 in 3,000? = 3000 (P) · What is the value of the 6 in 681? = 600 (N) · What is the value of the 6 in 46,554? = 6000 (E) · What is the value of the 3 in 536? = 30 (A) · What is the value of the 7 in 7,636? = 7000 (R) · What is the value of the 9 in 69,386? = 9000 (D) · What is the value of the 5 in 8,599? = 500 (S) · What is the value of the 3 in 385? = 300 (W) · What is the value of the 2 in 238? = 200 (C) · What is the value of the 9 in 392? = 90 (L) · What is the value of the 6 in 267? = 60 (H) · What is the value of the 1 in 612? = 10 (M) · What is the value of the 4 in 4,262? = 4000 (O) · What is the value of the 5 in 1,358? = 50 (I) · What is the value of the 9 in 4,986? = 900 (U)

Clue 2 (Rounding): "THE CHIEF SAW THEM STEER WITH THEIR LEFT HAND"

Round 73 to the nearest ten = 70 (T) · Round 712 to the nearest hundred = 700 (M) · Round 127 to the nearest ten = 130 (A) · Round 170 to the nearest ten = 170 (W) · Round 2,861 to the nearest hundred = 2900 (C) · Round 291 to the nearest ten = 290 (I) · Round 172 to the nearest hundred = 200 (E) · Round 34 to the nearest ten = 30 (R) · Round 6,608 to the nearest thousand = 7000 (H) · Round 895 to the nearest hundred = 900 (L) · Round 374 to the nearest ten = 370 (F) · Round 4,851 to the nearest thousand = 5000 (S) · Round 510 to the nearest hundred = 500 (D) · Round 2,318 to the nearest hundred = 2300 (N)

Clue 3 (Addition): "WE FOUND STICKY SWEET HONEY IN THE CABIN"

1170 + 1308 = 2478 (W) · 4450 + 2262 = 6712 (S) · 1223 + 1585 = 2808 (I) · 2527 + 1600 = 4127 (U) · 1488 + 2929 = 4417 (Y) · 2080 + 3017 = 5097 (C) · 2718 + 4416 = 7134 (F) · 1379 + 2429 = 3808 (B) · 4304 + 2160 = 6464 (D) · 2223 + 2933 = 5156 (T) · 904 + 1779 = 2683 (A) · 3918 + 4106 = 8024 (K) · 4751 + 4115 = 8866 (H) · 2489 + 3754 = 6243 (E) · 2945 + 1956 = 4901 (O) · 2462 + 1087 = 3549 (N)

Clue 4 (Subtraction): "A RED BANDANA WAS STUCK TO THE SAIL ROPE"

3321 - 1571 = 1750 (A) · 4570 - 2731 = 1839 (W) · 10047 - 2843 = 7204 (R) · 11206 - 4085 = 7121 (H) · 9994 - 1438 = 8556 (B) · 8699 - 188 = 8511 (D) · 2773 - 1208 = 1565 (P) · 4704 - 1522 = 3182 (L) · 7094 - 2814 = 4280 (S) · 5391 - 826 = 4565 (U) · 11919 - 3492 = 8427 (C) · 7271 - 1620 = 5651 (K) · 10860 - 2613 = 8247 (T) · 11424 - 2756 = 8668 (N) · 8532 - 1529 = 7003 (E) · 4410 - 969 = 3441 (O) · 8046 - 3593 = 4453 (I)

Clue 5 (Division facts (1-12)): surviving statement is box 11 → Captain De Soto

30 ÷ 10 = 3 · 45 ÷ 9 = 5 · 72 ÷ 6 = 12 · 36 ÷ 4 = 9 · 6 ÷ 3 = 2 · 12 ÷ 12 = 1 · 70 ÷ 7 = 10 · 8 ÷ 2 = 4 · 72 ÷ 12 = 6 · 32 ÷ 4 = 8 · 63 ÷ 9 = 7