



The Mystery of the Missing Compass

Grade 3 math · Addition, Subtraction, Multiplication, Place value, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

Someone has stolen the Sailing Master's magical sea map! Without it, our ship will get lost at sea. The crew is whispering, and everyone is a suspect. It is up to you to find the rogue pirate who took the map!

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 pirate is _____

Possible suspects

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

NAME	PIRATE SHIP	PIRATE GEAR	SWORD HAND	BANDANA COLOR	SECRET WEAKNESS
One Eyed Willy	The Wave Slicer	Spyglass	Right-Handed	Green Bandana	Scared of Frogs
Gunpowder Gabe	The Wave Slicer	Map Tube	Right-Handed	Blue Bandana	Ticklish
Scurvy Sam	The Salty Sea Dog	Shoulder Parrot	Right-Handed	Green Bandana	Ticklish
Salty Sue	The Sunken Skull	Golden Compass	Right-Handed	Red Bandana	Kelp Allergy
Anchor Andy	The Barnacle	Hook Hand	Left-Handed	Red Bandana	Kelp Allergy
Francis Drake	The Wave Slicer	Spyglass	Left-Handed	Blue Bandana	Scared of Frogs
Blackbeard	The Sunken Skull	Map Tube	Right-Handed	Blue Bandana	Scared of Frogs
Jolly Roger	The Salty Sea Dog	Hook Hand	Right-Handed	Green Bandana	Kelp Allergy
Barnacle Bill	The Salty Sea Dog	Golden Compass	Right-Handed	Green Bandana	Scared of Frogs
Grace O Malley	The Jolly Barnaby	Map Tube	Right-Handed	Red Bandana	Scared of Frogs
Captain Hook	The Barnacle	Map Tube	Right-Handed	Red Bandana	Ticklish
Captain Charles	The Jolly Barnaby	Spyglass	Right-Handed	Green Bandana	Scared of Frogs
Captain Kidd	The Barnacle	Golden Compass	Left-Handed	Red Bandana	Kelp Allergy
Mary Read	The Jolly Barnaby	Hook Hand	Left-Handed	Blue Bandana	Ticklish
Long John Silver	The Sunken Skull	Map Tube	Left-Handed	Green Bandana	Scared of Frogs
Patchy	The Salty Sea Dog	Spyglass	Left-Handed	Green Bandana	Ticklish
Calico Jack	The Wave Slicer	Map Tube	Right-Handed	Green Bandana	Scared of Frogs
Redbeard	The Jolly Barnaby	Shoulder Parrot	Right-Handed	Green Bandana	Scared of Frogs
Pegleg Pete	The Barnacle	Map Tube	Left-Handed	Blue Bandana	Ticklish
Marooned Max	The Salty Sea Dog	Shoulder Parrot	Left-Handed	Blue Bandana	Kelp Allergy
Henry Morgan	The Barnacle	Golden Compass	Right-Handed	Blue Bandana	Scared of Frogs

CLUE 1 Addition

The crew is loading heavy crates ofhardtack onto the deck. Let us add up all the crates in both piles to find our first code.

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

T																T
804	291	701	746	767	396	396	900	767	635	279	969	701	499	635	969	804
212	499	701	900	592	969	396	279	701	635	896	969	598	393	900	499	499

$356 + 448 = \square \rightarrow \text{ T }$

$191 + 401 = \square \rightarrow \text{ G }$

$190 + 309 = \square \rightarrow \text{ S }$

$283 + 463 = \square \rightarrow \text{ V }$

$140 + 72 = \square \rightarrow \text{ U }$

$426 + 275 = \square \rightarrow \text{ E }$

$261 + 135 = \square \rightarrow \text{ L }$

$152 + 139 = \square \rightarrow \text{ H }$

$140 + 139 = \square \rightarrow \text{ D }$

$349 + 547 = \square \rightarrow \text{ C }$

$593 + 307 = \square \rightarrow \text{ A }$

$218 + 380 = \square \rightarrow \text{ M }$

$238 + 155 = \square \rightarrow \text{ P }$

$375 + 260 = \square \rightarrow \text{ N }$

$635 + 334 = \square \rightarrow \text{ O }$

$427 + 340 = \square \rightarrow \text{ I }$

Scratch space:

CLUE 2 Subtraction

A giant wave washed some fresh lemons straight off the deck. Subtract the lost fruit from the total to unlock the second clue.

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

T								T											
237	705	495	102	846	606	705	237	705	702	497	324	495	324	496	787	495			
447	724	773	497	606	496	102	787	849	237	705	495	102	846	606	606	846	497	606	

$617 - 380 = \square \rightarrow \boxed{\text{T}}$	$1027 - 325 = \square \rightarrow \boxed{\text{A}}$	$783 - 286 = \square \rightarrow \boxed{\text{N}}$
$848 - 61 = \square \rightarrow \boxed{\text{O}}$	$1120 - 271 = \square \rightarrow \boxed{\text{M}}$	$565 - 69 = \square \rightarrow \boxed{\text{F}}$
$772 - 166 = \square \rightarrow \boxed{\text{G}}$	$129 - 27 = \square \rightarrow \boxed{\text{R}}$	$856 - 151 = \square \rightarrow \boxed{\text{H}}$
$451 - 4 = \square \rightarrow \boxed{\text{S}}$	$478 - 154 = \square \rightarrow \boxed{\text{D}}$	$845 - 72 = \square \rightarrow \boxed{\text{U}}$
$828 - 333 = \square \rightarrow \boxed{\text{E}}$	$1030 - 306 = \square \rightarrow \boxed{\text{W}}$	$894 - 48 = \square \rightarrow \boxed{\text{I}}$

Scratch space:

CLUE 3
Multiplication facts (1-12)

We found shiny gold coins lined up on the big wooden table. Multiplying the rows of gold by the columns gives us the next hint.

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

T																	
63	90	36	14	21	36	70	49	8	49	4	49	120	4	90	36	8	49
12	70	36	36	8	14	70	21	12	35	96	66	24	36	16			

$7 \times 9 = \square \rightarrow \text{T}$

$1 \times 8 = \square \rightarrow \text{N}$

$7 \times 7 = \square \rightarrow \text{A}$

$12 \times 10 = \square \rightarrow \text{Y}$

$7 \times 2 = \square \rightarrow \text{F}$

$12 \times 1 = \square \rightarrow \text{G}$

$4 \times 4 = \square \rightarrow \text{D}$

$3 \times 7 = \square \rightarrow \text{O}$

$12 \times 8 = \square \rightarrow \text{U}$

$2 \times 2 = \square \rightarrow \text{W}$

$8 \times 3 = \square \rightarrow \text{P}$

$7 \times 10 = \square \rightarrow \text{R}$

$10 \times 9 = \square \rightarrow \text{H}$

$7 \times 5 = \square \rightarrow \text{J}$

$6 \times 11 = \square \rightarrow \text{M}$

$4 \times 9 = \square \rightarrow \text{E}$

Scratch space:

CLUE 4 Place value

A secret message is written on the old sea map. Look at the digit in the tens place to decode the next hidden clue.

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

A																	
900	3000	9000	500	90	200	80	100	400	500	90	90	6000	300	2000	80	600	9000
	A												A				
30	900	3000	3000	600	20	300	50	600	80	600	9000	90	800	900	3000	600	

What is the value of the 9 in 947? → **A**

What is the value of the 3 in 1,371? → **C**

What is the value of the 3 in 83,656? → **S**

What is the value of the 5 in 520? → **R**

What is the value of the 6 in 6,027? → **N**

What is the value of the 5 in 651? → **K**

What is the value of the 9 in 6,590? → **E**

What is the value of the 8 in 855? → **M**

What is the value of the 3 in 131? → **W**

What is the value of the 9 in 9,044? → **H**

What is the value of the 2 in 5,427? → **U**

What is the value of the 4 in 469? → **G**

What is the value of the 8 in 589? → **O**

What is the value of the 1 in 194? → **F**

What is the value of the 2 in 2,606? → **L**

What is the value of the 6 in 605? → **T**

What is the value of the 2 in 255? → **D**

Scratch space:

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

Our tool chest has slots for ten wooden pegs but some are missing. Work out how many pegs are gone to reveal the last 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:

$1 + \underline{\quad} = 8$

$3 + \underline{\quad} = 15$

$7 + \underline{\quad} = 11$

$9 + \underline{\quad} = 18$

$5 + \underline{\quad} = 10$

$10 + \underline{\quad} = 13$

$6 + \underline{\quad} = 7$

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

$9 + \underline{\quad} = 11$

$8 + \underline{\quad} = 19$

$3 + \underline{\quad} = 11$

Step 2 - cross out the sentence with each answer:

1. The villain sailed away on the Barnacle, then fed cracker to their shoulder parrot.
2. The villain slipped away on the Sunken Skull, then fed cracker to their shoulder parrot.
3. The villain slipped away on the Sunken Skull, then checked their golden compass.
4. The villain escaped aboard the Jolly Barnaby, then dropped their shiny spyglass.
5. The villain sailed away on the Barnacle, then checked their golden compass.
6. The villain sped away on the Wave Slicer, then waved their sharp hook hand.
7. The villain escaped aboard the Jolly Barnaby, then fed cracker to their shoulder parrot.
8. The villain escaped aboard the Jolly Barnaby, then checked their golden compass.
9. The villain escaped aboard the Jolly Barnaby, then clutched their leather map tube.
10. The villain sped away on the Wave Slicer, then dropped their shiny spyglass.
11. The villain steered the Salty Sea Dog into the bay, then fed cracker to their shoulder parrot.
12. The villain sped away on the Wave Slicer, then clutched their leather map tube.

Answer Key

The Mystery of the Missing Compass

Culprit: One Eyed Willy

The Wave Slicer · Spyglass · Right-Handed · Green Bandana · Scared of Frogs

Trail: Start 21 → Clue 1 17 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT USE A GOLDEN COMPASS"

$356 + 448 = 804$ (T) · $191 + 401 = 592$ (G) · $190 + 309 = 499$ (S) · $283 + 463 = 746$ (V) · $140 + 72 = 212$ (U) · $426 + 275 = 701$ (E) · $261 + 135 = 396$ (L) · $152 + 139 = 291$ (H) · $140 + 139 = 279$ (D) · $349 + 547 = 896$ (C) · $593 + 307 = 900$ (A) · $218 + 380 = 598$ (M) · $238 + 155 = 393$ (P) · $375 + 260 = 635$ (N) · $635 + 334 = 969$ (O) · $427 + 340 = 767$ (I)

Clue 2 (Subtraction): "THE RIGHT HANDED FOE SWUNG FROM THE RIGGING"

$617 - 380 = 237$ (T) · $1027 - 325 = 702$ (A) · $783 - 286 = 497$ (N) · $848 - 61 = 787$ (O) · $1120 - 271 = 849$ (M) · $565 - 69 = 496$ (F) · $772 - 166 = 606$ (G) · $129 - 27 = 102$ (R) · $856 - 151 = 705$ (H) · $451 - 4 = 447$ (S) · $478 - 154 = 324$ (D) · $845 - 72 = 773$ (U) · $828 - 333 = 495$ (E) · $1030 - 306 = 724$ (W) · $894 - 48 = 846$ (I)

Clue 3 (Multiplication facts (1-12)): "THE FOE RAN AWAY WHEN A GREEN FROG JUMPED"

$7 \times 9 = 63$ (T) · $1 \times 8 = 8$ (N) · $7 \times 7 = 49$ (A) · $12 \times 10 = 120$ (Y) · $7 \times 2 = 14$ (F) · $12 \times 1 = 12$ (G) · $4 \times 4 = 16$ (D) · $3 \times 7 = 21$ (O) · $12 \times 8 = 96$ (U) · $2 \times 2 = 4$ (W) · $8 \times 3 = 24$ (P) · $7 \times 10 = 70$ (R) · $10 \times 9 = 90$ (H) · $7 \times 5 = 35$ (J) · $6 \times 11 = 66$ (M) · $4 \times 9 = 36$ (E)

Clue 4 (Place value): "A SHRED OF GREEN CLOTH WAS STUCK TO THE MAST"

What is the value of the 9 in 947? = 900 (A) · What is the value of the 3 in 1,371? = 300 (C) · What is the value of the 3 in 83,656? = 3000 (S) · What is the value of the 5 in 520? = 500 (R) · What is the value of the 6 in 6,027? = 6000 (N) · What is the value of the 5 in 651? = 50 (K) · What is the value of the 9 in 6,590? = 90 (E) · What is the value of the 8 in 855? = 800 (M) · What is the value of the 3 in 131? = 30 (W) · What is the value of the 9 in 9,044? = 9000 (H) · What is the value of the 2 in 5,427? = 20 (U) · What is the value of the 4 in 469? = 400 (G) · What is the value of the 8 in 589? = 80 (O) · What is the value of the 1 in 194? = 100 (F) · What is the value of the 2 in 2,606? = 2000 (L) · What is the value of the 6 in 605? = 600 (T) · What is the value of the 2 in 255? = 200 (D)

Clue 5 (Missing addends): surviving statement is box 10 → One Eyed Willy

$1 + \underline{\quad} = 8 = 7$ · $3 + \underline{\quad} = 15 = 12$ · $7 + \underline{\quad} = 11 = 4$ · $9 + \underline{\quad} = 18 = 9$ · $5 + \underline{\quad} = 10 = 5$ · $10 + \underline{\quad} = 13 = 3$ · $6 + \underline{\quad} = 7 = 1$ · $10 + \underline{\quad} = 16 = 6$ · $9 + \underline{\quad} = 11 = 2$ · $8 + \underline{\quad} = 19 = 11$ · $3 + \underline{\quad} = 11 = 8$