

The Magic Pearl Mystery

Grade 2 math · Addition, Skip counting, Place value, Subtraction, Missing addends · Reading level grades 1-2

Detective: _____ Date: _____

A sneaky troublemaker took the Golden Pearl from the Sparkle Reef Lagoon. Mermaids and sea-cats saw someone swim away. Use your math skills to find the thief.

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 Sparkle Thief is _____

Possible suspects

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

NAME	MAGIC POWER	SPECIAL GEAR	ACTIVE HAND	HAIR COLOR	FOIL ITEM
Cleo	purr wave	shell wand	left handed	purple hair	warm milk
Barnaby	star burst	crystal ring	right handed	blue hair	shiny mirror
Bubbles	rainbow glow	pearl belt	left handed	purple hair	shiny mirror
Purrfect	rainbow glow	crown	right handed	pink hair	warm milk
Whiskers	glitter splash	kelp cape	left handed	pink hair	warm milk
Shimmer	bubble blast	pearl belt	right handed	purple hair	shiny mirror
Velvet	glitter splash	shell wand	right handed	pink hair	shiny mirror
Marina	bubble blast	kelp cape	left handed	blue hair	warm milk
Coral	star burst	shell wand	right handed	purple hair	shiny mirror
Flounder	glitter splash	kelp cape	left handed	pink hair	shiny mirror
Starry	bubble blast	kelp cape	left handed	pink hair	warm milk
Misty	rainbow glow	crystal ring	right handed	purple hair	shiny mirror
Pearl	star burst	kelp cape	right handed	purple hair	shiny mirror
Glimmer	rainbow glow	kelp cape	left handed	blue hair	shiny mirror
Nala	glitter splash	crystal ring	left handed	purple hair	warm milk
Sandy	rainbow glow	crown	right handed	purple hair	tickle fish
Splash	bubble blast	crown	right handed	purple hair	shiny mirror
Felix	glitter splash	pearl belt	left handed	purple hair	shiny mirror
Ariel	rainbow glow	pearl belt	right handed	purple hair	warm milk
Melody	purr wave	kelp cape	left handed	pink hair	warm milk
Luna	rainbow glow	crown	right handed	purple hair	warm milk

CLUE 1 Addition

Let us count the shiny pink shells. Add the big ones and the small ones to find the total.

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

T			T															
24	92	73	24	92	62	73	38	68	89	73	74	76	89	24	77	73	63	53

63	98	73	93	22	75	63	22	73

$11 + 13 = \square \rightarrow \text{T}$

$23 + 51 = \square \rightarrow \text{S}$

$41 + 34 = \square \rightarrow \text{C}$

$19 + 43 = \square \rightarrow \text{I}$

$33 + 40 = \square \rightarrow \text{E}$

$59 + 33 = \square \rightarrow \text{H}$

$33 + 44 = \square \rightarrow \text{W}$

$38 + 25 = \square \rightarrow \text{A}$

$41 + 35 = \square \rightarrow \text{N}$

$7 + 15 = \square \rightarrow \text{P}$

$58 + 40 = \square \rightarrow \text{K}$

$43 + 46 = \square \rightarrow \text{O}$

$17 + 21 = \square \rightarrow \text{F}$

$26 + 27 = \square \rightarrow \text{R}$

$39 + 29 = \square \rightarrow \text{D}$

$44 + 49 = \square \rightarrow \text{L}$

Scratch space:

CLUE 2

The cute kittens left little paw prints in the wet sand. Count them by twos to find the way.

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

The diagram shows two rows of boxes, each with a number underneath. The top row has 18 boxes, and the bottom row has 9 boxes. Some boxes are shaded orange and contain the letter 'T'.

Row	Box	Number	Contains 'T'
Top Row	1	21	Yes
	2	22	No
	3	100	No
	4	36	No
	5	33	No
	6	26	No
	7	8	No
	8	36	No
	9	33	No
	10	45	No
	11	22	No
	12	100	No
	13	25	No
	14	8	No
	15	12	No
	16	26	No
	17	21	Yes
	18	22	No
Bottom Row	1	130	No
	2	12	No
	3	15	No
	4	22	No
	5	21	Yes
	6	22	No
	7	33	No
	8	26	No
	9	8	No

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 → **T**

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 → **S**

Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 → **D**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 → **H**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, , 39, 42 → **W**

Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 → **G**

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 → **E**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 →

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 → **R**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, , 36, 39 → **A**

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 → **N**

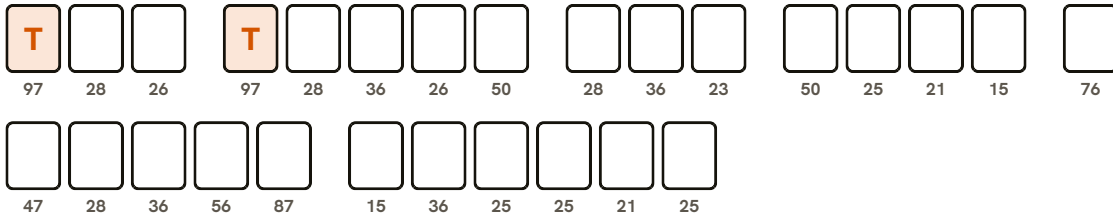
Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 → **L**

Scratch space:

CLUE 3 Place value

The mermaids keep pearls in boxes of ten and cups of one. Read the place value blocks to see how many there are.

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



What number has 9 tens and 7 ones? → **T**

What number has 4 tens and 7 ones? → **S**

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

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

What number has 8 tens and 7 ones? → **Y**

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

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

What number has 5 tens and 6 ones? → **N**

What number has 5 tens and 0 ones? → **F**

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

What number has 2 tens and 5 ones? → **R**

What number has 2 tens and 1 one? → **O**

What number has 1 ten and 5 ones? → **M**

Scratch space:

CLUE 4

Subtraction

The sea-unicorns had some yummy kelp treats. A crab ate some of them. Subtract the eaten treats to see what is left.

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

T								T										
79	47	22	53	28	35	75	79	30	75	47	22	83	83	47	56	59		

													T
26	35	28	26	83	22	47	56	89	28	36	66	89	79

$83 - 4 = \square \rightarrow \boxed{\text{T}}$

$100 - 11 = \square \rightarrow \boxed{\text{I}}$

$78 - 25 = \square \rightarrow \boxed{\text{C}}$

$50 - 3 = \square \rightarrow \boxed{\text{H}}$

$54 - 32 = \square \rightarrow \boxed{\text{E}}$

$119 - 36 = \square \rightarrow \boxed{\text{L}}$

$55 - 27 = \square \rightarrow \boxed{\text{R}}$

$83 - 8 = \square \rightarrow \boxed{\text{S}}$

$82 - 26 = \square \rightarrow \boxed{\text{A}}$

$40 - 4 = \square \rightarrow \boxed{\text{O}}$

$64 - 38 = \square \rightarrow \boxed{\text{P}}$

$88 - 22 = \square \rightarrow \boxed{\text{N}}$

$43 - 13 = \square \rightarrow \boxed{\text{Y}}$

$90 - 31 = \square \rightarrow \boxed{\text{D}}$

$50 - 15 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

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

We need ten shiny stars to open the secret chest. We only have six stars now. How many more stars do we need?

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:

$5 + \underline{\quad} = 16$

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

$4 + \underline{\quad} = 9$

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

$4 + \underline{\quad} = 6$

$4 + \underline{\quad} = 13$

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

$7 + \underline{\quad} = 19$

$3 + \underline{\quad} = 7$

$8 + \underline{\quad} = 16$

$5 + \underline{\quad} = 8$

Step 2 - cross out the sentence with each answer:

1. The villain fired a star burst, then waved a shell wand.
2. The villain threw a glitter splash, then tied a pearl belt.
3. The villain fired a star burst, then shook a kelp cape.
4. The villain shot a bubble blast, then shook a kelp cape.
5. The villain shot a bubble blast, then tied a pearl belt.
6. The villain made a rainbow glow, then shined a crystal ring.
7. The villain fired a star burst, then polished a crown.
8. The villain threw a glitter splash, then waved a shell wand.
9. The villain made a rainbow glow, then polished a crown.
10. The villain threw a glitter splash, then shined a crystal ring.
11. The villain shot a bubble blast, then polished a crown.
12. The villain made a rainbow glow, then shook a kelp cape.

Answer Key

The Magic Pearl Mystery

Culprit: Misty

rainbow glow · crystal ring · right handed · purple hair · shiny mirror

Trail: Start 21 → Clue 1 14 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE THIEF DOES NOT WEAR A KELP CAPE"

$11 + 13 = 24$ (T) · $23 + 51 = 74$ (S) · $41 + 34 = 75$ (C) · $19 + 43 = 62$ (I) · $33 + 40 = 73$ (E) · $59 + 33 = 92$ (H) · $33 + 44 = 77$ (W) · $38 + 25 = 63$ (A) · $41 + 35 = 76$ (N) · $7 + 15 = 22$ (P) · $58 + 40 = 98$ (K) · $43 + 46 = 89$ (O) · $17 + 21 = 38$ (F) · $26 + 27 = 53$ (R) · $39 + 29 = 68$ (D) · $44 + 49 = 93$ (L)

Clue 2 (Skip counting): "THE WAND WAS HELD IN THE RIGHT HAND"

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, __, 24, 27 = 21 (T) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (S) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (D) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (H) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, 42 = 36 (W) · Skip-count by 5s. Fill the blank: 5, 10, __, 20, 25 = 15 (G) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, __, 110, 120 = 100 (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (I) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, __, 140, 150 = 130 (R) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, 39 = 33 (A) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, __, 28, 30 = 26 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (L)

Clue 3 (Place value): "THE THIEF HID FROM A SHINY MIRROR"

What number has 9 tens and 7 ones? = 97 (T) · What number has 4 tens and 7 ones? = 47 (S) · What number has 7 tens and 6 ones? = 76 (A) · What number has 2 tens and 3 ones? = 23 (D) · What number has 8 tens and 7 ones? = 87 (Y) · What number has 3 tens and 6 ones? = 36 (I) · What number has 2 tens and 6 ones? = 26 (E) · What number has 5 tens and 6 ones? = 56 (N) · What number has 5 tens and 0 ones? = 50 (F) · What number has 2 tens and 8 ones? = 28 (H) · What number has 2 tens and 5 ones? = 25 (R) · What number has 2 tens and 1 one? = 21 (O) · What number has 1 ten and 5 ones? = 15 (M)

Clue 4 (Subtraction): "THE CRUSTY SHELL HAD PURPLE HAIR ON IT"

$83 - 4 = 79$ (T) · $100 - 11 = 89$ (I) · $78 - 25 = 53$ (C) · $50 - 3 = 47$ (H) · $54 - 32 = 22$ (E) · $119 - 36 = 83$ (L) · $55 - 27 = 28$ (R) · $83 - 8 = 75$ (S) · $82 - 26 = 56$ (A) · $40 - 4 = 36$ (O) · $64 - 38 = 26$ (P) · $88 - 22 = 66$ (N) · $43 - 13 = 30$ (Y) · $90 - 31 = 59$ (D) · $50 - 15 = 35$ (U)

Clue 5 (Missing addends): surviving statement is box 6 → Misty

$5 + \underline{\quad} = 16 = 11$ · $6 + \underline{\quad} = 7 = 1$ · $4 + \underline{\quad} = 9 = 5$ · $1 + \underline{\quad} = 8 = 7$ · $4 + \underline{\quad} = 6 = 2$ · $4 + \underline{\quad} = 13 = 9$ · $10 + \underline{\quad} = 20 = 10$ · $7 + \underline{\quad} = 19 = 12$ · $3 + \underline{\quad} = 7 = 4$ · $8 + \underline{\quad} = 16 = 8$ · $5 + \underline{\quad} = 8 = 3$