



The Sparkle Tree Mystery

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

Detective: _____ **Date:** _____

The Great Golden Star is gone from the top of the Sparkle Tree. Headmaster Barnaby needs your help. We must search the academy grounds and find the sneaky unicorn who took it.

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 Glitter Thief is _____

Possible suspects

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

NAME	UNICORN MAGIC	MAGICAL GEAR	HOOF WRITING	MANE COLOR	SWEETS CRAVINGS
Pip	Rainbow Dash	Star Ribbon	Right Hoof Writer	Purple Mane	Apple Treats
Buttercup	Bubble Jump	Golden Horseshoe	Left Hoof Writer	Blue Mane	Berry Juice
Barnaby	Star Glow	Golden Horseshoe	Left Hoof Writer	Pink Mane	Sweet Hay
Bobby	Star Glow	Golden Horseshoe	Right Hoof Writer	Pink Mane	Berry Juice
Snowflake	Dream Song	Flower Crown	Right Hoof Writer	Blue Mane	Sweet Hay
Twinkle	Glitter Blast	Star Ribbon	Left Hoof Writer	Pink Mane	Berry Juice
Misty	Star Glow	Flower Crown	Left Hoof Writer	Pink Mane	Berry Juice
Honey	Bubble Jump	Golden Horseshoe	Left Hoof Writer	Pink Mane	Berry Juice
Sparkle	Glitter Blast	Silver Saddle	Right Hoof Writer	Blue Mane	Apple Treats
Skyler	Rainbow Dash	Golden Horseshoe	Right Hoof Writer	Blue Mane	Berry Juice
Dash	Glitter Blast	Star Ribbon	Left Hoof Writer	Pink Mane	Sweet Hay
Daisy	Glitter Blast	Star Ribbon	Right Hoof Writer	Blue Mane	Apple Treats
Sunny	Bubble Jump	Silver Saddle	Left Hoof Writer	Pink Mane	Berry Juice
Starla	Star Glow	Golden Horseshoe	Left Hoof Writer	Blue Mane	Apple Treats
Clover	Rainbow Dash	Golden Horseshoe	Right Hoof Writer	Blue Mane	Sweet Hay
Ziggy	Glitter Blast	Sparkle Wand	Right Hoof Writer	Blue Mane	Sweet Hay
Bella	Bubble Jump	Flower Crown	Right Hoof Writer	Blue Mane	Sweet Hay
Pippin	Bubble Jump	Sparkle Wand	Right Hoof Writer	Purple Mane	Sweet Hay
Cloud	Star Glow	Star Ribbon	Right Hoof Writer	Purple Mane	Berry Juice
Sugar	Glitter Blast	Star Ribbon	Right Hoof Writer	Pink Mane	Apple Treats
Penny	Bubble Jump	Flower Crown	Left Hoof Writer	Pink Mane	Berry Juice

CLUE 1 Addition

We count the shiny gems left on the path. Add the red gems and the blue gems to find our first clue.

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

T																T
74	70	55	36	26	71	71	79	26	32	76	66	55	46	32	66	74

						T										
70	79	36	55	79	46	74	79	31	31	26	54	54	66	32		

$26 + 48 = \boxed{} \rightarrow \boxed{\text{T}}$

$35 + 35 = \boxed{} \rightarrow \boxed{\text{H}}$

$34 + 45 = \boxed{} \rightarrow \boxed{\text{A}}$

$10 + 22 = \boxed{} \rightarrow \boxed{\text{N}}$

$16 + 15 = \boxed{} \rightarrow \boxed{\text{R}}$

$29 + 47 = \boxed{} \rightarrow \boxed{\text{D}}$

$27 + 27 = \boxed{} \rightarrow \boxed{\text{B}}$

$14 + 12 = \boxed{} \rightarrow \boxed{\text{I}}$

$24 + 22 = \boxed{} \rightarrow \boxed{\text{S}}$

$33 + 22 = \boxed{} \rightarrow \boxed{\text{E}}$

$34 + 32 = \boxed{} \rightarrow \boxed{\text{O}}$

$10 + 26 = \boxed{} \rightarrow \boxed{\text{V}}$

$44 + 27 = \boxed{} \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 2

The thief used some magic flowers from the garden. We subtract the flowers left from the start total to see what is missing.

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, with some boxes highlighted in orange and labeled 'T'.

Top Row (16 boxes):

- Box 1: Orange, labeled 'T' (57)
- Box 2: (17)
- Box 3: (70)
- Box 4: (13)
- Box 5: (20)
- Box 6: (86)
- Box 7: (67)
- Box 8: (56)
- Box 9: (56)
- Box 10: (24)
- Box 11: (67)
- Box 12: (71)
- Box 13: (85)
- Box 14: (47)
- Box 15: (88)
- Box 16: (13)

Bottom Row (16 boxes):

- Box 1: (47)
- Box 2: (67)
- Box 3: Orange, labeled 'T' (57)
- Box 4: (17)
- Box 5: Orange, labeled 'T' (57)
- Box 6: (17)
- Box 7: (70)
- Box 8: (24)
- Box 9: (70)
- Box 10: (61)
- Box 11: Orange, labeled 'T' (57)
- Box 12: (17)
- Box 13: (28)
- Box 14: (28)
- Box 15: (61)

$82 - 25 = \boxed{} \rightarrow \boxed{\text{T}}$

$70 - 9 = \square \rightarrow \mathbf{F}$

$$89 - 3 = \boxed{} \rightarrow \boxed{\text{R}}$$

$109 - 21 = \boxed{} \rightarrow \boxed{\text{A}}$

$$57 - 37 = \boxed{} \rightarrow \boxed{\text{C}}$$

$$45 - 17 = \boxed{} \rightarrow \boxed{0}$$

$69 - 13 = \boxed{} \rightarrow \boxed{\mathbf{B}}$

$$28 - 11 = \boxed{} \rightarrow \boxed{\text{H}}$$

90 - 5 = → **G**

$30 - 5 = \boxed{} \rightarrow \boxed{\text{D}}$

$60 - 13 = \boxed{} \rightarrow \boxed{\text{W}}$

$31 - 7 = \boxed{} \rightarrow \boxed{\text{L}}$

$88 - 21 = \boxed{} \rightarrow \boxed{I}$

$$45 - 32 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$74 - 3 = \boxed{} \rightarrow \boxed{\text{N}}$$

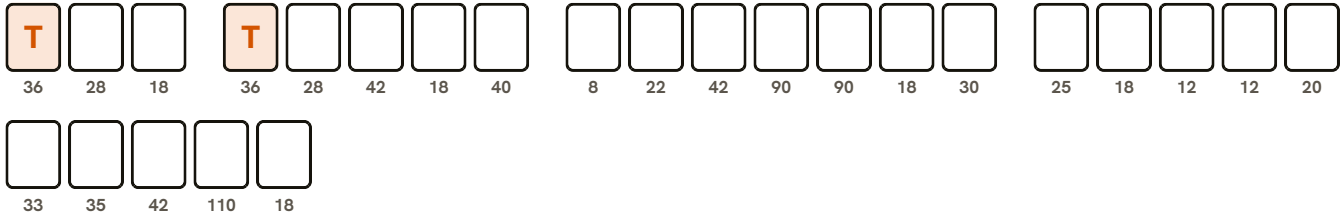
$96 - 26 = \boxed{} \rightarrow \boxed{\text{E}}$

Scratch space:

CLUE 3 Skip counting

Look at the fresh hoofprints in the mud. They are in equal rows of two. Skip count the prints to find the clue.

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



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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, 45 → **U**

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 → **I**

Skip-count by 10s. Fill the blank: 10, 20, __, 40, 50 → **D**

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

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

Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 → **F**

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 → **C**

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

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, __, 21, 24 → **E**

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

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, __, 30, 32 → **H**

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

→

J

Skip-count by 5s. Fill the blank: 5, 10, 15, __, 25, 30

→

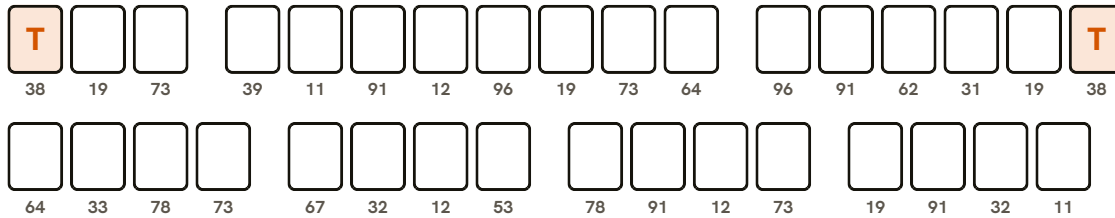
Y

Scratch space:

CLUE 4 Place value

The locker lock uses a secret code. Look at the tens blocks and the ones blocks to read the secret number.

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



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

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

What number has 7 tens and 3 ones? → **E**

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

What number has 1 ten and 2 ones? → **N**

What number has 9 tens and 1 one? → **A**

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

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

What number has 1 ten and 1 one? → **R**

What number has 1 ten and 9 ones? → **H**

What number has 3 tens and 1 one? → **G**

What number has 5 tens and 3 ones? → **K**

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

What number has 3 tens and 3 ones? → **O**

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

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

Scratch space:

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

The magic potion needs ten sparkly berries. We only have seven. Find how many more berries we need to finish the spell.

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:

$3 + \underline{\quad} = 10$

$10 + \underline{\quad} = 14$

$4 + \underline{\quad} = 5$

$9 + \underline{\quad} = 12$

$5 + \underline{\quad} = 17$

$4 + \underline{\quad} = 15$

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

$2 + \underline{\quad} = 10$

$3 + \underline{\quad} = 9$

$7 + \underline{\quad} = 12$

$7 + \underline{\quad} = 17$

Step 2 - cross out the sentence with each answer:

1. The villain makes the grass glow like stars, then adjusts a colorful flower crown.
2. The villain dashes across a rainbow, then polishes a fancy silver saddle.
3. The villain sings a soft dream song, then polishes a fancy silver saddle.
4. The villain jumps high inside a big bubble, then taps a shiny golden horseshoe.
5. The villain makes the grass glow like stars, then ties a bright star ribbon.
6. The villain jumps high inside a big bubble, then ties a bright star ribbon.
7. The villain jumps high inside a big bubble, then adjusts a colorful flower crown.
8. The villain blasts glitter into the sky, then waves a glowing sparkle wand.
9. The villain jumps high inside a big bubble, then polishes a fancy silver saddle.
10. The villain dashes across a rainbow, then waves a glowing sparkle wand.
11. The villain sings a soft dream song, then adjusts a colorful flower crown.
12. The villain blasts glitter into the sky, then polishes a fancy silver saddle.

Answer Key

The Sparkle Tree Mystery

Culprit: Sunny

Bubble Jump · Silver Saddle · Left Hoof Writer · Pink Mane · Berry Juice

Trail: Start 21 → Clue 1 15 → Clue 2 7 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT HAVE A STAR RIBBON"

$26 + 48 = 74$ (T) · $35 + 35 = 70$ (H) · $34 + 45 = 79$ (A) · $10 + 22 = 32$ (N) · $16 + 15 = 31$ (R) · $29 + 47 = 76$ (D) · $27 + 27 = 54$ (B) · $14 + 12 = 26$ (I) · $24 + 22 = 46$ (S) · $33 + 22 = 55$ (E) · $34 + 32 = 66$ (O) · $10 + 26 = 36$ (V) · $44 + 27 = 71$ (L)

Clue 2 (Subtraction): "THE SCRIBBLING WAS DONE WITH THE LEFT HOOF"

$82 - 25 = 57$ (T) · $70 - 9 = 61$ (F) · $89 - 3 = 86$ (R) · $109 - 21 = 88$ (A) · $57 - 37 = 20$ (C) · $45 - 17 = 28$ (O) · $69 - 13 = 56$ (B) · $28 - 11 = 17$ (H) · $90 - 5 = 85$ (G) · $30 - 5 = 25$ (D) · $60 - 13 = 47$ (W) · $31 - 7 = 24$ (L) · $88 - 21 = 67$ (I) · $45 - 32 = 13$ (S) · $74 - 3 = 71$ (N) · $96 - 26 = 70$ (E)

Clue 3 (Skip counting): "THE THIEF SPILLED BERRY JUICE"

Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, __, 39, $42 = 36$ (T) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, __, 40, $45 = 35$ (U) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, $48 = 42$ (I) · Skip-count by 10s. Fill the blank: 10, 20, __, 40, $50 = 30$ (D) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, $35 = 25$ (B) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, $16 = 12$ (R) · Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, $60 = 40$ (F) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, $110 = 90$ (L) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, $130 = 110$ (C) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, $12 = 8$ (S) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, __, 21, $24 = 18$ (E) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, $26 = 22$ (P) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, __, 30, $32 = 28$ (H) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, __, 36, $39 = 33$ (J) · Skip-count by 5s. Fill the blank: 5, 10, 15, __, 25, $30 = 20$ (Y)

Clue 4 (Place value): "THE BRANCHES CAUGHT SOME PINK MANE HAIR"

What number has 3 tens and 8 ones? = 38 (T) · What number has 9 tens and 6 ones? = 96 (C) · What number has 7 tens and 3 ones? = 73 (E) · What number has 6 tens and 7 ones? = 67 (P) · What number has 1 ten and 2 ones? = 12 (N) · What number has 9 tens and 1 one? = 91 (A) · What number has 3 tens and 9 ones? = 39 (B) · What number has 3 tens and 2 ones? = 32 (I) · What number has 1 ten and 1 one? = 11 (R) · What number has 1 ten and 9 ones? = 19 (H) · What number has 3 tens and 1 one? = 31 (G) · What number has 5 tens and 3 ones? = 53 (K) · What number has 6 tens and 4 ones? = 64 (S) · What number has 3 tens and 3 ones? = 33 (O) · What number has 7 tens and 8 ones? = 78 (M) · What number has 6 tens and 2 ones? = 62 (U)

Clue 5 (Missing addends): surviving statement is box 9 → Sunny

$3 + \underline{\quad} = 10 = 7$ · $10 + \underline{\quad} = 14 = 4$ · $4 + \underline{\quad} = 5 = 1$ · $9 + \underline{\quad} = 12 = 3$ · $5 + \underline{\quad} = 17 = 12$ · $4 + \underline{\quad} = 15 = 11$ · $9 + \underline{\quad} = 11 = 2$ · $2 + \underline{\quad} = 10 = 8$ · $3 + \underline{\quad} = 9 = 6$ · $7 + \underline{\quad} = 12 = 5$ · $7 + \underline{\quad} = 17 = 10$