The Midnight Slipper Mystery

Grade 2 math · Addition, Subtraction, Rounding, Place value, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

During the annual Royal Moonlight Ball, the royal crown disappeared right from the display pedestal! Solve the math clues to discover which guest took the crown.

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 Masked Crasher is _____

Possible suspects

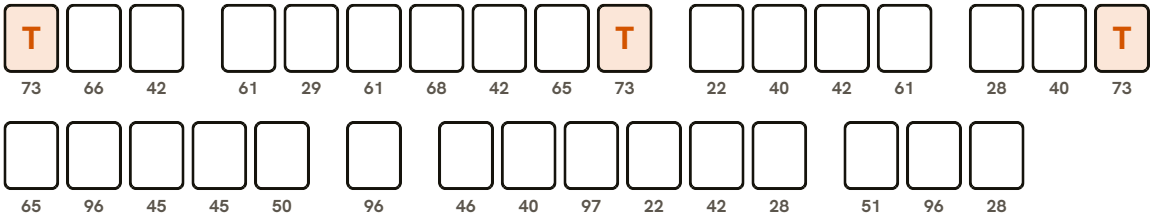
Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	DANCE STYLE	ROYAL PROP	DANCING HAND	HAIRSTYLE	SECRET FLAW
Princess Rosalind	Tango Leap	Velvet Cape	Left-handed	Braided Crown	Music Trance
Lady Ophelia	Waltz Spin	Golden Fan	Left-handed	Curled Updo	Music Trance
Duchess Ella	Waltz Spin	Silver Wand	Right-handed	Flowing Waves	Rose Allergy
Princess Clara	Polka Twirl	Silk Mask	Left-handed	Flowing Waves	Rose Allergy
Baroness Aurora	Waltz Spin	Velvet Cape	Left-handed	Curled Updo	Music Trance
Princess Fiona	Tango Leap	Pearl Scepter	Left-handed	Curled Updo	Music Trance
Princess Daphne	Tango Leap	Velvet Cape	Right-handed	Flowing Waves	Rose Allergy
Princess Lucinda	Minuet Step	Silk Mask	Left-handed	Braided Crown	Rose Allergy
Duchess Flora	Foxtrot Glide	Velvet Cape	Right-handed	Braided Crown	Rose Allergy
Lady Sophia	Minuet Step	Silk Mask	Right-handed	Flowing Waves	Rose Allergy
Duchess Mariana	Waltz Spin	Silver Wand	Left-handed	Braided Crown	Rose Allergy
Duchess Odette	Polka Twirl	Golden Fan	Left-handed	Flowing Waves	Mouse Fear
Countess Giselle	Tango Leap	Velvet Cape	Left-handed	Flowing Waves	Rose Allergy
Lady Evangeline	Waltz Spin	Pearl Scepter	Left-handed	Flowing Waves	Music Trance
Lady Genevieve	Foxtrot Glide	Velvet Cape	Left-handed	Braided Crown	Mouse Fear
Princess Belle	Tango Leap	Silver Wand	Left-handed	Curled Updo	Mouse Fear
Princess Victoria	Waltz Spin	Golden Fan	Right-handed	Flowing Waves	Rose Allergy
Lady Penelope	Waltz Spin	Silk Mask	Right-handed	Curled Updo	Rose Allergy
Duchess Beatrice	Foxtrot Glide	Silver Wand	Right-handed	Flowing Waves	Rose Allergy
Countess Juliet	Waltz Spin	Silver Wand	Right-handed	Flowing Waves	Music Trance
Princess Helena	Minuet Step	Velvet Cape	Right-handed	Braided Crown	Mouse Fear

CLUE 1 Addition

The royal page counted all the invitations delivered to the east wing and west wing to track guest arrivals.

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



37 + 36 = ☐ → T

46 + 22 = ☐ → P

26 + 14 = ☐ → O

35 + 16 = ☐ → F

45 + 20 = ☐ → C

11 + 18 = ☐ → U

20 + 22 = ☐ → E

35 + 62 = ☐ → L

19 + 9 = ☐ → N

13 + 9 = ☐ → D

13 + 33 = ☐ → G

29 + 16 = ☐ → R

19 + 42 = ☐ → S

22 + 44 = ☐ → H

64 + 32 = ☐ → A

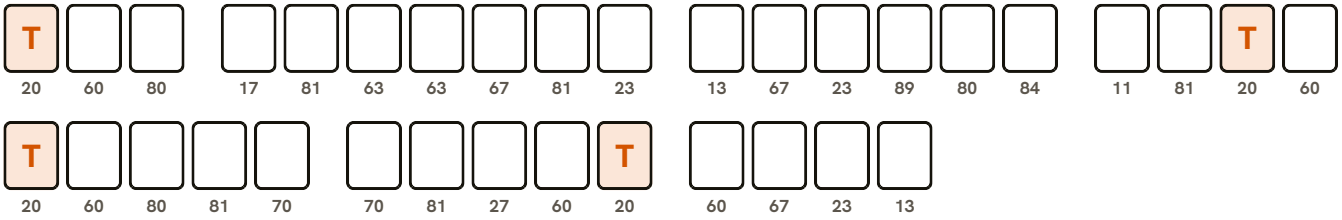
22 + 28 = ☐ → Y

Scratch space:

CLUE 2 Subtraction

The ballroom butler checked how many glass slippers remained on the tray after guests took theirs.

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



52 - 32 = ☐ → T

100 - 30 = ☐ → R

48 - 21 = ☐ → G

100 - 33 = ☐ → A

98 - 35 = ☐ → L

99 - 19 = ☐ → E

99 - 15 = ☐ → S

68 - 8 = ☐ → H

26 - 15 = ☐ → W

21 - 4 = ☐ → V

118 - 29 = ☐ → C

94 - 13 = ☐ → I

35 - 12 = ☐ → N

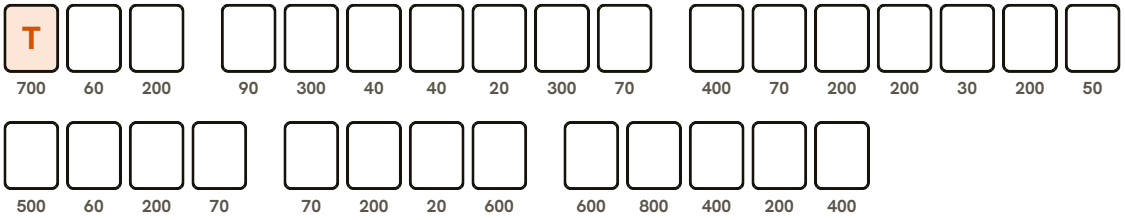
40 - 27 = ☐ → D

Scratch space:

CLUE 3 Rounding

The guard estimated the crowd size on the balcony readout system which only displays rounded numbers.

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



Round 714 to the nearest hundred ☐ → **T**

Round 49 to the nearest ten ☐ → **D**

Round 517 to the nearest hundred ☐ → **W**

Round 31 to the nearest ten ☐ → **Z**

Round 760 to the nearest hundred ☐ → **O**

Round 17 to the nearest ten ☐ → **A**

Round 72 to the nearest ten ☐ → **N**

Round 648 to the nearest hundred ☐ → **R**

Round 94 to the nearest ten ☐ → **V**

Round 342 to the nearest hundred ☐ → **I**

Round 36 to the nearest ten ☐ → **L**

Round 153 to the nearest hundred ☐ → **E**

Round 61 to the nearest ten ☐ → **H**

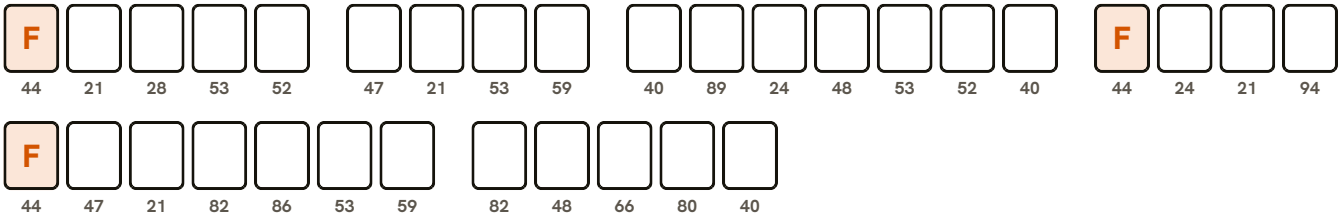
Round 370 to the nearest hundred ☐ → **S**

Scratch space:

CLUE 4 Place value

The head servant organized table numbers by hundreds tens and ones to find where the intruder sat.

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



What number has 4 tens and 4 ones? ☐ → F

What number has 8 tens and 0 ones? ☐ → E

What number has 5 tens and 3 ones? ☐ → N

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

What number has 8 tens and 2 ones? ☐ → W

What number has 2 tens and 8 ones? ☐ → U

What number has 4 tens and 7 ones? ☐ → L

What number has 5 tens and 2 ones? ☐ → D

What number has 5 tens and 9 ones? ☐ → G

What number has 4 tens and 8 ones? ☐ → A

What number has 2 tens and 4 ones? ☐ → R

What number has 8 tens and 6 ones? ☐ → I

What number has 4 tens and 0 ones? ☐ → S

What number has 8 tens and 9 ones? ☐ → T

What number has 9 tens and 4 ones? ☐ → M

What number has 6 tens and 6 ones? ☐ → V

Scratch space:

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

> The pastry chef divided the royal frosted cupcakes into equal trays to see who grabbed an extra treat.

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:

50 ÷ 10 = ☐ | 24 ÷ 12 = ☐ | 24 ÷ 4 = ☐ | 70 ÷ 10 = ☐ | 110 ÷ 10 = ☐

144 ÷ 12 = ☐ | 4 ÷ 4 = ☐ | 4 ÷ 1 = ☐ | 30 ÷ 10 = ☐ | 63 ÷ 7 = ☐

60 ÷ 6 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain leaped across the ballroom floor, then waved a silver wand to cause a commotion.
2. The villain glided past the banquet table, then waved a silver wand to cause a commotion.
3. The villain twirled under the crystal chandeliers, then adjusted a silk mask to hide their face.
4. The villain leaped across the ballroom floor, then adjusted a silk mask to hide their face.
5. The villain stepped gracefully along the balcony, then adjusted a silk mask to hide their face.
6. The villain spun through the grand waltz, then waved a silver wand to cause a commotion.
7. The villain twirled under the crystal chandeliers, then flourished a golden fan in the dark.
8. The villain leaped across the ballroom floor, then swished a velvet cape over the stolen tiara.
9. The villain glided past the banquet table, then flourished a golden fan in the dark.
10. The villain spun through the grand waltz, then adjusted a silk mask to hide their face.
11. The villain glided past the banquet table, then adjusted a silk mask to hide their face.
12. The villain leaped across the ballroom floor, then flourished a golden fan in the dark.

TEACHER / PARENT

Answer Key

The Midnight Slipper Mystery

Culprit: Princess Daphne

Tango Leap · Velvet Cape · Right-handed · Flowing Waves · Rose Allergy

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

Clue 1 (Addition): "THE SUSPECT DOES NOT CARRY A GOLDEN FAN"

37 + 36 = 73 (T) · 46 + 22 = 68 (P) · 26 + 14 = 40 (O) · 35 + 16 = 51 (F) · 45 + 20 = 65 (C) · 11 + 18 = 29 (U) · 20 + 22 = 42 (E) · 35 + 62 = 97 (L) · 19 + 9 = 28 (N) · 13 + 9 = 22 (D) · 13 + 33 = 46 (G) · 29 + 16 = 45 (R) · 19 + 42 = 61 (S) · 22 + 44 = 66 (H) · 64 + 32 = 96 (A) · 22 + 28 = 50 (Y)

Clue 2 (Subtraction): "THE VILLAIN DANCES WITH THEIR RIGHT HAND"

52 - 32 = 20 (T) · 100 - 30 = 70 (R) · 48 - 21 = 27 (G) · 100 - 33 = 67 (A) · 98 - 35 = 63 (L) · 99 - 19 = 80 (E) · 99 - 15 = 84 (S) · 68 - 8 = 60 (H) · 26 - 15 = 11 (W) · 21 - 4 = 17 (V) · 118 - 29 = 89 (C) · 94 - 13 = 81 (I) · 35 - 12 = 23 (N) · 40 - 27 = 13 (D)

Clue 3 (Rounding): "THE VILLAIN SNEEZED WHEN NEAR ROSES"

Round 714 to the nearest hundred = 700 (T) · Round 49 to the nearest ten = 50 (D) · Round 517 to the nearest hundred = 500 (W) · Round 31 to the nearest ten = 30 (Z) · Round 760 to the nearest hundred = 800 (O) · Round 17 to the nearest ten = 20 (A) · Round 72 to the nearest ten = 70 (N) · Round 648 to the nearest hundred = 600 (R) · Round 94 to the nearest ten = 90 (V) · Round 342 to the nearest hundred = 300 (I) · Round 36 to the nearest ten = 40 (L) · Round 153 to the nearest hundred = 200 (E) · Round 61 to the nearest ten = 60 (H) · Round 370 to the nearest hundred = 400 (S)

Clue 4 (Place value): "FOUND LONG STRANDS FROM FLOWING WAVES"

What number has 4 tens and 4 ones? = 44 (F) · What number has 8 tens and 0 ones? = 80 (E) · What number has 5 tens and 3 ones? = 53 (N) · What number has 2 tens and 1 one? = 21 (O) · What number has 8 tens and 2 ones? = 82 (W) · What number has 2 tens and 8 ones? = 28 (U) · What number has 4 tens and 7 ones? = 47 (L) · What number has 5 tens and 2 ones? = 52 (D) · What number has 5 tens and 9 ones? = 59 (G) · What number has 4 tens and 8 ones? = 48 (A) · What number has 2 tens and 4 ones? = 24 (R) · What number has 8 tens and 6 ones? = 86 (I) · What number has 4 tens and 0 ones? = 40 (S) · What number has 8 tens and 9 ones? = 89 (T) · What number has 9 tens and 4 ones? = 94 (M) · What number has 6 tens and 6 ones? = 66 (V)

Clue 5 (Division facts (1-12)): surviving statement is box 8 → Princess Daphne

50 ÷ 10 = 5 · 24 ÷ 12 = 2 · 24 ÷ 4 = 6 · 70 ÷ 10 = 7 · 110 ÷ 10 = 11 · 144 ÷ 12 = 12 · 4 ÷ 4 = 1 · 4 ÷ 1 = 4 · 30 ÷ 10 = 3 · 63 ÷ 7 = 9 · 60 ÷ 6 = 10