

The Case of the Missing Rainbow Orchid

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

Detective: _____ **Date:** _____

Someone broke into the Whispering Greenhouse and snatched the legendary Rainbow Orchid right before the Grand Spring Festival! Sprout the Squirrel needs your help to track down the culprit before the opening ceremony.

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 Flower Thief is _____

Possible suspects

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

NAME	FAVORITE FLOWER	GARDEN TOOL	WATERING STYLE	FLOWER CROWN	ALLERGY TRIGGER
Rowan Moss	Rose	Silver Shears	Left-handed watering	Yellow Daisies	Scared of garden snails
Holly Woods	Rose	Brass Rake	Right-handed watering	Yellow Daisies	Hates heavy rain
Petunia Potts	Tulip	Glass Watering Can	Right-handed watering	Red Roses	Sneezes from pollen
Hazel Wood	Lily	Golden Trowel	Left-handed watering	Red Roses	Scared of garden snails
Laurel Crown	Daisy	Silk Ribbon	Right-handed watering	Red Roses	Sneezes from pollen
Ivy Gardner	Rose	Glass Watering Can	Left-handed watering	Yellow Daisies	Sneezes from pollen
Poppy Field	Rose	Golden Trowel	Right-handed watering	Yellow Daisies	Scared of garden snails
Marigold Finch	Rose	Glass Watering Can	Left-handed watering	Yellow Daisies	Hates heavy rain
Clover Mead	Orchid	Silk Ribbon	Right-handed watering	Blue Orchids	Scared of garden snails
Aster Clay	Rose	Golden Trowel	Right-handed watering	Yellow Daisies	Hates heavy rain
Willow Brook	Orchid	Brass Rake	Right-handed watering	Blue Orchids	Hates heavy rain
Jasmine Green	Lily	Silk Ribbon	Left-handed watering	Yellow Daisies	Scared of garden snails
Heather Glen	Tulip	Silk Ribbon	Right-handed watering	Yellow Daisies	Sneezes from pollen
Flora Rose	Tulip	Golden Trowel	Right-handed watering	Yellow Daisies	Hates heavy rain
Violet Thorne	Lily	Silk Ribbon	Right-handed watering	Yellow Daisies	Hates heavy rain
Fern Valley	Daisy	Glass Watering Can	Left-handed watering	Red Roses	Sneezes from pollen
Dahlia Stone	Rose	Glass Watering Can	Right-handed watering	Yellow Daisies	Hates heavy rain
Lily Bloom	Rose	Glass Watering Can	Right-handed watering	Blue Orchids	Scared of garden snails
Daisy Miller	Rose	Silver Shears	Right-handed watering	Yellow Daisies	Scared of garden snails
Sage Mercer	Lily	Golden Trowel	Right-handed watering	Blue Orchids	Sneezes from pollen
Oliver Oak	Orchid	Silk Ribbon	Left-handed watering	Blue Orchids	Scared of garden snails

CLUE 1

To unlock the greenhouse gate, we must count the total number of seed packets found on the trail. Let us add the red packets and the blue packets together.

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



$$1751 + 3908 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$1180 + 1633 = \boxed{} \rightarrow \boxed{\text{D}}$$

$$5231 + 2902 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$3427 + 2525 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$$3666 + 2954 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$3710 + 3728 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$3452 + 3293 = \boxed{} \rightarrow \boxed{0}$$

$$2301 + 2200 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$3768 + 1931 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$5337 + 3487 = \boxed{} \rightarrow \boxed{\text{U}}$$

$$1596 + 903 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$1902 + 2753 = \boxed{} \rightarrow \boxed{\text{A}}$$

$1777 + 2108 = \boxed{} \rightarrow \boxed{\text{N}}$

$$5114 + 3479 = \boxed{} \rightarrow \boxed{\text{V}}$$

$$2518 + 3332 = \boxed{} \rightarrow \boxed{\text{I}}$$

Scratch space:

CLUE 2 Rounding

The magical sunflower growth chart only displays estimated heights. We must round the actual height of the tallest sunflower to the nearest ten to read the clue.

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

T						T								
110	130	9000	1100	370	290	110	3700	200	1300	5000	170	230	900	
									T					T
1700	200	300	2900	9000	1100	5000	170	110	130	9000	290	370	30	130
1300	370	1100	9000											

Round 111 to the nearest ten → **T**

Round 174 to the nearest ten → **N**

Round 1,722 to the nearest hundred → **P**

Round 2,864 to the nearest hundred → **K**

Round 131 to the nearest ten → **H**

Round 318 to the nearest hundred → **C**

Round 1,320 to the nearest hundred → **S**

Round 233 to the nearest ten → **L**

Round 366 to the nearest ten → **I**

Round 226 to the nearest hundred → **A**

Round 4,845 to the nearest thousand → **O**

Round 3,703 to the nearest hundred → **W**

Round 871 to the nearest hundred → **Y**

Round 28 to the nearest ten → **G**

Round 1,121 to the nearest hundred → **D**

Round 8,674 to the nearest thousand → **E**

Round 290 to the nearest ten → **R**

Scratch space:

CLUE 3
Subtraction

The thief knocked over a water barrel! To find the next hint, we need to subtract the spilled water from the starting amount in the barrel.

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

T										T							
4579	5380	7918	5036	6997	7918	4410	8947	5392	4579	5380	3575	7918	6981	6834	4410	6997	

				T												
6981	6834	8290	2647	4579	5380	7918	5380	7918	4410	1595	5392	6834	4410	3575	6997	

$7201 - 2622 = \boxed{} \rightarrow \boxed{T}$

$5916 - 3269 = \boxed{} \rightarrow \boxed{M}$

$6057 - 665 = \boxed{} \rightarrow \boxed{Y}$

$9053 - 1135 = \boxed{} \rightarrow \boxed{E}$

$9363 - 4953 = \boxed{} \rightarrow \boxed{A}$

$10376 - 3395 = \boxed{} \rightarrow \boxed{F}$

$10158 - 4778 = \boxed{} \rightarrow \boxed{H}$

$9224 - 277 = \boxed{} \rightarrow \boxed{K}$

$10392 - 3558 = \boxed{} \rightarrow \boxed{R}$

$9950 - 2953 = \boxed{} \rightarrow \boxed{N}$

$8804 - 3768 = \boxed{} \rightarrow \boxed{S}$

$6556 - 4961 = \boxed{} \rightarrow \boxed{V}$

$5101 - 1526 = \boxed{} \rightarrow \boxed{I}$

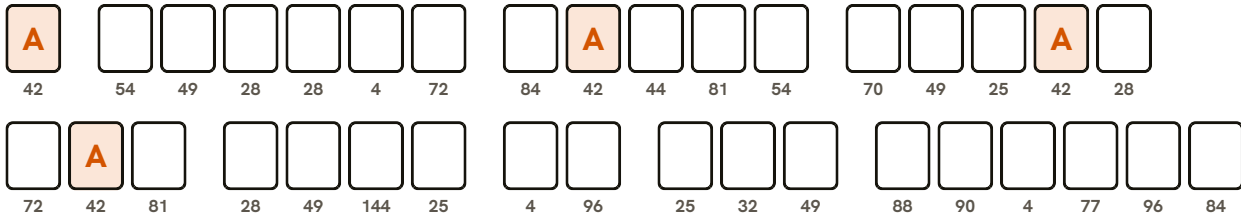
$10556 - 2266 = \boxed{} \rightarrow \boxed{O}$

Scratch space:

CLUE 4
Multiplication facts (1-12)

The flower pots are arranged in perfect, neat rows. We can multiply the rows by the columns to count the total number of plants and reveal a secret message.

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



$6 \times 7 = \square \rightarrow \text{A}$

$4 \times 11 = \square \rightarrow \text{I}$

$7 \times 4 = \square \rightarrow \text{L}$

$7 \times 12 = \square \rightarrow \text{D}$

$11 \times 7 = \square \rightarrow \text{U}$

$6 \times 12 = \square \rightarrow \text{W}$

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

$9 \times 9 = \square \rightarrow \text{S}$

$12 \times 12 = \square \rightarrow \text{F}$

$4 \times 8 = \square \rightarrow \text{H}$

$1 \times 4 = \square \rightarrow \text{O}$

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

$5 \times 5 = \square \rightarrow \text{T}$

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

$6 \times 9 = \square \rightarrow \text{Y}$

$8 \times 11 = \square \rightarrow \text{G}$

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

Scratch space:

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

We found a pile of stolen flower bulbs that need to be shared equally among the garden beds. Let us divide the bulbs to see how many go into each bed.

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:

$40 \div 10 = \boxed{}$

$18 \div 2 = \boxed{}$

$3 \div 1 = \boxed{}$

$8 \div 4 = \boxed{}$

$121 \div 11 = \boxed{}$

$30 \div 5 = \boxed{}$

$20 \div 4 = \boxed{}$

$64 \div 8 = \boxed{}$

$7 \div 7 = \boxed{}$

$40 \div 4 = \boxed{}$

$77 \div 11 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain gathers a bunch of daisies, then snips the stem with silver shears.
2. The villain steals a delicate orchid, then clears away the leaves with a brass rake.
3. The villain plucks a rare red rose, then scrapes the soil with a golden trowel.
4. The villain plucks a rare red rose, then splashes water from a glass watering can.
5. The villain steals a delicate orchid, then ties up the flower with a silk ribbon.
6. The villain digs up a glowing tulip, then splashes water from a glass watering can.
7. The villain plucks a rare red rose, then snips the stem with silver shears.
8. The villain digs up a glowing tulip, then clears away the leaves with a brass rake.
9. The villain digs up a glowing tulip, then scrapes the soil with a golden trowel.
10. The villain pockets a golden lily bulb, then clears away the leaves with a brass rake.
11. The villain digs up a glowing tulip, then ties up the flower with a silk ribbon.
12. The villain plucks a rare red rose, then clears away the leaves with a brass rake.

Answer Key

The Case of the Missing Rainbow Orchid

Culprit: Holly Woods

Rose · Brass Rake · Right-handed watering · Yellow Daisies · Hates heavy rain

Trail: Start 21 → Clue 1 15 → Clue 2 10 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE VILLAIN DOES NOT USE A SILK RIBBON"

$1751 + 3908 = 5659$ (T) · $1180 + 1633 = 2813$ (D) · $5231 + 2902 = 8133$ (E) · $3427 + 2525 = 5952$ (B) · $3666 + 2954 = 6620$ (R) · $3710 + 3728 = 7438$ (H) · $3452 + 3293 = 6745$ (O) · $2301 + 2200 = 4501$ (L) · $3768 + 1931 = 5699$ (S) · $5337 + 3487 = 8824$ (U) · $1596 + 903 = 2499$ (K) · $1902 + 2753 = 4655$ (A) · $1777 + 2108 = 3885$ (N) · $5114 + 3479 = 8593$ (V) · $2518 + 3332 = 5850$ (I)

Clue 2 (Rounding): "THE DIRT WAS ONLY PACKED ON THE RIGHT SIDE"

Round 111 to the nearest ten = 110 (T) · Round 174 to the nearest ten = 170 (N) · Round 1,722 to the nearest hundred = 1700 (P) · Round 2,864 to the nearest hundred = 2900 (K) · Round 131 to the nearest ten = 130 (H) · Round 318 to the nearest hundred = 300 (C) · Round 1,320 to the nearest hundred = 1300 (S) · Round 233 to the nearest ten = 230 (L) · Round 366 to the nearest ten = 370 (I) · Round 226 to the nearest hundred = 200 (A) · Round 4,845 to the nearest thousand = 5000 (O) · Round 3,703 to the nearest hundred = 3700 (W) · Round 871 to the nearest hundred = 900 (Y) · Round 28 to the nearest ten = 30 (G) · Round 1,121 to the nearest hundred = 1100 (D) · Round 8,674 to the nearest thousand = 9000 (E) · Round 290 to the nearest ten = 290 (R)

Clue 3 (Subtraction): "THE SNEAKY THIEF RAN FROM THE HEAVY RAIN"

$7201 - 2622 = 4579$ (T) · $5916 - 3269 = 2647$ (M) · $6057 - 665 = 5392$ (Y) · $9053 - 1135 = 7918$ (E) · $9363 - 4953 = 4410$ (A) · $10376 - 3395 = 6981$ (F) · $10158 - 4778 = 5380$ (H) · $9224 - 277 = 8947$ (K) · $10392 - 3558 = 6834$ (R) · $9950 - 2953 = 6997$ (N) · $8804 - 3768 = 5036$ (S) · $6556 - 4961 = 1595$ (V) · $5101 - 1526 = 3575$ (I) · $10556 - 2266 = 8290$ (O)

Clue 4 (Multiplication facts (1-12)): "A YELLOW DAISY PETAL WAS LEFT ON THE GROUND"

$6 \times 7 = 42$ (A) · $4 \times 11 = 44$ (I) · $7 \times 4 = 28$ (L) · $7 \times 12 = 84$ (D) · $11 \times 7 = 77$ (U) · $6 \times 12 = 72$ (W) · $7 \times 7 = 49$ (E) · $9 \times 9 = 81$ (S) · $12 \times 12 = 144$ (F) · $4 \times 8 = 32$ (H) · $1 \times 4 = 4$ (O) · $10 \times 9 = 90$ (R) · $5 \times 5 = 25$ (T) · $12 \times 8 = 96$ (N) · $6 \times 9 = 54$ (Y) · $8 \times 11 = 88$ (G) · $10 \times 7 = 70$ (P)

Clue 5 (Division facts (1-12)): surviving statement is box 12 → Holly Woods

$40 \div 10 = 4$ · $18 \div 2 = 9$ · $3 \div 1 = 3$ · $8 \div 4 = 2$ · $121 \div 11 = 11$ · $30 \div 5 = 6$ · $20 \div 4 = 5$ · $64 \div 8 = 8$ · $7 \div 7 = 1$ · $40 \div 4 = 10$ · $77 \div 11 = 7$