



The Case of the Stolen Rainbow Gem

Grade 5 math · Place value, Fractions of a number, Rounding, Skip counting · Reading level grades 3-4

Detective: _____ Date: _____

Someone scrambled the star maps in Cloudberry Forest and stole the Rainbow Gem! Detective, check the clues to find out which magical unicorn did 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 Shadow Unicorn is _____

Possible suspects

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

NAME	MAGIC HORN ABILITY	SPARKLE AURA	DOMINANT HOOF	MANE STYLE	TRICKED BY
Radiance	Flower Blooming	Glitter Dust	Right Hooved	Curly Mane	Sweet Apples
Whisper	Flower Blooming	Glitter Dust	Left Hooved	Curly Mane	Soft Music
Sunburst	Flower Blooming	Moon Frost	Left Hooved	Spiky Mane	Soft Music
Prism	Cloud Hopping	Moon Frost	Left Hooved	Spiky Mane	Soft Music
Starbeam	Starlight Glow	Glitter Dust	Right Hooved	Spiky Mane	Sweet Apples
Twilight	Cloud Hopping	Moon Frost	Right Hooved	Braided Mane	Silly Jokes
Glimmer	Flower Blooming	Golden Sparks	Right Hooved	Spiky Mane	Sweet Apples
Velvet	Crystal Healing	Sun Flare	Left Hooved	Spiky Mane	Soft Music
Nimbus	Cloud Hopping	Sun Flare	Right Hooved	Curly Mane	Soft Music
Opal	Rainbow Beam	Golden Sparks	Right Hooved	Spiky Mane	Soft Music
Zaffre	Flower Blooming	Silver Shimmer	Left Hooved	Braided Mane	Soft Music
Sunkiss	Flower Blooming	Sun Flare	Right Hooved	Spiky Mane	Soft Music
Celestia	Starlight Glow	Silver Shimmer	Right Hooved	Braided Mane	Sweet Apples
Buttercup	Crystal Healing	Glitter Dust	Right Hooved	Spiky Mane	Soft Music
Starlight	Rainbow Beam	Golden Sparks	Left Hooved	Spiky Mane	Soft Music
Astral	Starlight Glow	Sun Flare	Left Hooved	Spiky Mane	Silly Jokes
Moonlight	Starlight Glow	Glitter Dust	Left Hooved	Spiky Mane	Soft Music
Aurora	Crystal Healing	Glitter Dust	Left Hooved	Spiky Mane	Sweet Apples
Crystal	Rainbow Beam	Glitter Dust	Left Hooved	Braided Mane	Silly Jokes
Jewel	Starlight Glow	Silver Shimmer	Right Hooved	Curly Mane	Soft Music
Dazzle	Crystal Healing	Golden Sparks	Left Hooved	Braided Mane	Soft Music

CLUE 1
Place value

The guard examines a place value chart on the enchanted vault lock to find the first digit.

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

T																T
8000	6000	1000	60	3000	200	200	900	3000	600	9000	100	1000	30	600	100	8000
80	30	1000	700	100	200	9000	1000	600	30	500	900	800	300	30		

What is the value of the 8 in 448,001? → **T**

What is the value of the 9 in 69,515? → **D**

What is the value of the 6 in 772,761? → **V**

What is the value of the 7 in 512,738? → **G**

What is the value of the 6 in 253,610? → **N**

What is the value of the 3 in 46,635? → **S**

What is the value of the 6 in 296,002? → **H**

What is the value of the 2 in 16,295? → **L**

What is the value of the 8 in 13,986? → **U**

What is the value of the 8 in 746,871? → **R**

What is the value of the 3 in 13,755? → **I**

What is the value of the 3 in 85,314? → **K**

What is the value of the 1 in 81,505? → **E**

What is the value of the 1 in 926,199? → **O**

What is the value of the 9 in 52,955? → **A**

What is the value of the 5 in 601,508? → **P**

Scratch space:

CLUE 2
Fractions of a number

To open the secret path, the detective calculates a fraction of the glowing magic crystals.

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

T																T
37	29	35	17	40	35	8	20	13	17	2	17	16	35	24	37	

	T											T
17	37	8	6	16	35	33	8	7	35	15	37	

									T
29	36	36	15	16	21	5	40	37	

$4/8 \text{ of } 74 = \square \rightarrow \boxed{\text{T}}$

$2/8 \text{ of } 140 = \square \rightarrow \boxed{\text{E}}$

$2/10 \text{ of } 145 = \square \rightarrow \boxed{\text{H}}$

$5/10 \text{ of } 42 = \square \rightarrow \boxed{\text{R}}$

$5/10 \text{ of } 14 = \square \rightarrow \boxed{\text{L}}$

$4/6 \text{ of } 30 = \square \rightarrow \boxed{\text{K}}$

$2/8 \text{ of } 20 = \square \rightarrow \boxed{\text{I}}$

$3/8 \text{ of } 16 = \square \rightarrow \boxed{\text{M}}$

$4/6 \text{ of } 24 = \square \rightarrow \boxed{\text{P}}$

$1/5 \text{ of } 10 = \square \rightarrow \boxed{\text{U}}$

$1/6 \text{ of } 78 = \square \rightarrow \boxed{\text{Y}}$

$1/5 \text{ of } 165 = \square \rightarrow \boxed{\text{D}}$

$2/10 \text{ of } 40 = \square \rightarrow \boxed{\text{A}}$

$4/8 \text{ of } 72 = \square \rightarrow \boxed{\text{O}}$

$4/6 \text{ of } 60 = \square \rightarrow \boxed{\text{N}}$

$1/6 \text{ of } 90 = \square \rightarrow \boxed{\text{F}}$

$1/4 \text{ of } 96 = \square \rightarrow \boxed{\text{C}}$

$1/4 \text{ of } 68 = \square \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 3 Rounding

The forest radar display rounds all power readings to the nearest hundred.

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

T																			
290	700	90	3000	1300	1100	1100	7000	1300	3700	2000	7000	430	430	290	1700	70	70	90	230

					T					
2300	4300	430	1700	900	290	5000	130	430	1300	300

Round 290 to the nearest ten → **T**

Round 2,323 to the nearest hundred → **B**

Round 927 to the nearest hundred → **F**

Round 1,309 to the nearest hundred → **I**

Round 88 to the nearest ten → **E**

Round 1,063 to the nearest hundred → **L**

Round 4,943 to the nearest thousand → **M**

Round 4,255 to the nearest hundred → **Y**

Round 1,689 to the nearest hundred → **O**

Round 432 to the nearest ten → **S**

Round 668 to the nearest hundred → **H**

Round 69 to the nearest ten → **P**

Round 3,261 to the nearest thousand → **V**

Round 3,705 to the nearest hundred → **N**

Round 227 to the nearest ten → **D**

Round 1,617 to the nearest thousand → **W**

Round 7,062 to the nearest thousand → **A**

Round 340 to the nearest hundred → **C**

Round 130 to the nearest ten → **U**

Scratch space:

CLUE 4 Skip counting

The ranger skip counts the sparkly horseshoe prints along the muddy trail.

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

S						S						S				
10	9	110	60	140	90	10	27	110	22	45	60	10	8	18	70	12
45	60	140	42	40	42	110	42	27	22	25	140	90				

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 → **S**

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 → **K**

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

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

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

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

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

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

Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 → **N**

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

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

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

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

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

Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 → **A**

Scratch space:

CLUE 5**Fractions of a number - the last clue**

The caretaker measures out a fraction of the starry sugar cubes to test the potion.

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:

$2/5 \text{ of } 30 = \boxed{}$

$1/4 \text{ of } 12 = \boxed{}$

$3/5 \text{ of } 15 = \boxed{}$

$1/2 \text{ of } 20 = \boxed{}$

$3/6 \text{ of } 22 = \boxed{}$

$2/5 \text{ of } 10 = \boxed{}$

$5/6 \text{ of } 6 = \boxed{}$

$2/4 \text{ of } 16 = \boxed{}$

$1/6 \text{ of } 6 = \boxed{}$

$3/6 \text{ of } 4 = \boxed{}$

$3/8 \text{ of } 16 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain shot a bright rainbow beam, then left behind glitter dust.
2. The villain shot a bright rainbow beam, then trailed cold moon frost.
3. The villain made colorful flowers bloom, then trailed cold moon frost.
4. The villain hopped across soft cloud tops, then burst with a warm sun flare.
5. The villain made colorful flowers bloom, then dropped glowing golden sparks.
6. The villain shot a bright rainbow beam, then flashed a silver shimmer.
7. The villain used crystal healing magic, then burst with a warm sun flare.
8. The villain shot a bright rainbow beam, then burst with a warm sun flare.
9. The villain lit up with starlight glow, then left behind glitter dust.
10. The villain used crystal healing magic, then left behind glitter dust.
11. The villain used crystal healing magic, then dropped glowing golden sparks.
12. The villain hopped across soft cloud tops, then trailed cold moon frost.

Answer Key

The Case of the Stolen Rainbow Gem

Culprit: Velvet

Crystal Healing · Sun Flare · Left Hooved · Spiky Mane · Soft Music

Trail: Start 21 → Clue 1 17 → Clue 2 9 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE VILLAIN DOES NOT USE GOLDEN SPARKS"

What is the value of the 8 in 448,001? = 8000 (T) · What is the value of the 9 in 69,515? = 9000 (D) · What is the value of the 6 in 772,761? = 60 (V) · What is the value of the 7 in 512,738? = 700 (G) · What is the value of the 6 in 253,610? = 600 (N) · What is the value of the 3 in 46,635? = 30 (S) · What is the value of the 6 in 296,002? = 6000 (H) · What is the value of the 2 in 16,295? = 200 (L) · What is the value of the 8 in 13,986? = 80 (U) · What is the value of the 8 in 746,871? = 800 (R) · What is the value of the 3 in 13,755? = 3000 (I) · What is the value of the 3 in 85,314? = 300 (K) · What is the value of the 1 in 81,505? = 1000 (E) · What is the value of the 1 in 926,199? = 100 (O) · What is the value of the 9 in 52,955? = 900 (A) · What is the value of the 5 in 601,508? = 500 (P)

Clue 2 (Fractions of a number): "THE SNEAKY SUSPECT STAMPED A LEFT HOOFPRIINT"

$\frac{4}{8}$ of 74 = 37 (T) · $\frac{2}{8}$ of 140 = 35 (E) · $\frac{2}{10}$ of 145 = 29 (H) · $\frac{5}{10}$ of 42 = 21 (R) · $\frac{5}{10}$ of 14 = 7 (L) · $\frac{4}{6}$ of 30 = 20 (K) · $\frac{2}{8}$ of 20 = 5 (I) · $\frac{3}{8}$ of 16 = 6 (M) · $\frac{4}{6}$ of 24 = 16 (P) · $\frac{1}{5}$ of 10 = 2 (U) · $\frac{1}{6}$ of 78 = 13 (Y) · $\frac{1}{5}$ of 165 = 33 (D) · $\frac{2}{10}$ of 40 = 8 (A) · $\frac{4}{8}$ of 72 = 36 (O) · $\frac{4}{6}$ of 60 = 40 (N) · $\frac{1}{6}$ of 90 = 15 (F) · $\frac{1}{4}$ of 96 = 24 (C) · $\frac{1}{4}$ of 68 = 17 (S)

Clue 3 (Rounding): "THE VILLAIN WAS STOPPED BY SOFT MUSIC"

Round 290 to the nearest ten = 290 (T) · Round 2,323 to the nearest hundred = 2300 (B) · Round 927 to the nearest hundred = 900 (F) · Round 1,309 to the nearest hundred = 1300 (I) · Round 88 to the nearest ten = 90 (E) · Round 1,063 to the nearest hundred = 1100 (L) · Round 4,943 to the nearest thousand = 5000 (M) · Round 4,255 to the nearest hundred = 4300 (Y) · Round 1,689 to the nearest hundred = 1700 (O) · Round 432 to the nearest ten = 430 (S) · Round 668 to the nearest hundred = 700 (H) · Round 69 to the nearest ten = 70 (P) · Round 3,261 to the nearest thousand = 3000 (V) · Round 3,705 to the nearest hundred = 3700 (N) · Round 227 to the nearest ten = 230 (D) · Round 1,617 to the nearest thousand = 2000 (W) · Round 7,062 to the nearest thousand = 7000 (A) · Round 340 to the nearest hundred = 300 (C) · Round 130 to the nearest ten = 130 (U)

Clue 4 (Skip counting): "STRANDS FROM A SPIKY MANE WERE FOUND"

Skip-count by 2s. Fill the blank: 2, 4, 6, 8, __, 12, 14 = 10 (S) · Skip-count by 3s. Fill the blank: 3, 6, __, 12, 15 = 9 (T) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, __, 75, 80 = 70 (K) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, __, 30, 33 = 27 (F) · Skip-count by 10s. Fill the blank: 10, 20, 30, __, 50, 60 = 40 (W) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, __, 21, 24 = 18 (I) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, __, 14, 16 = 12 (Y) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, __, 100, 110 = 90 (D) · Skip-count by 2s. Fill the blank: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, __, 24, 26 = 22 (O) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, __, 150, 160 = 140 (N) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, __, 50, 55 = 45 (M) · Skip-count by 2s. Fill the blank: 2, 4, 6, __, 10, 12 = 8 (P) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, __, 30, 35 = 25 (U) · Skip-count by 10s. Fill the blank: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, __, 120, 130 = 110 (R) · Skip-count by 3s. Fill the blank: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, __, 45, 48 = 42 (E) · Skip-count by 5s. Fill the blank: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, __, 65, 70 = 60 (A)

Clue 5 (Fractions of a number): surviving statement is box 7 → Velvet

$\frac{2}{5}$ of 30 = 12 · $\frac{1}{4}$ of 12 = 3 · $\frac{3}{5}$ of 15 = 9 · $\frac{1}{2}$ of 20 = 10 · $\frac{3}{6}$ of 22 = 11 · $\frac{2}{5}$ of 10 = 4 · $\frac{5}{6}$ of 6 = 5 · $\frac{2}{4}$ of 16 = 8 · $\frac{1}{6}$ of 6 = 1 · $\frac{3}{6}$ of 4 = 2 · $\frac{3}{8}$ of 16 = 6