



The Great Prism Valley Capers

Grade 5 math · Fractions of a number, Order of operations, Multiplication, Rounding, Division · Reading level grades 5-6

Detective: _____ Date: _____

The peaceful meadows of Prism Valley are in a panic! A rogue unicorn has snuck into the royal stables and stolen the mythical Starstone. As lead detective of the Glitter Guard, you must track down the culprit before the valley loses its beautiful rainbows forever.

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 Rogue 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 SPECIALTY	INHERENT GIFT	SPARKLE BIAS	MANE COLOR	SECRET FEAR
Jubilee	rainbow-blasting	glitter teleportation	left-hooved sparkler	neon pink mane	marshmallow bait
Zephyr	rainbow-blasting	rainbow shielding	right-hooved sparkler	glittering silver mane	rustling plastic bags
Holo	horn-glowing	crystal conjuring	right-hooved sparkler	neon pink mane	sour lemon drops
Velvet	sparkle-dusting	starlight levitation	right-hooved sparkler	glittering silver mane	sour lemon drops
Utopia	cloud-shaping	rainbow shielding	left-hooved sparkler	glittering silver mane	sour lemon drops
Misty	sparkle-dusting	dream weaving	left-hooved sparkler	glittering silver mane	rustling plastic bags
Luna	cloud-shaping	rainbow shielding	right-hooved sparkler	pastel purple mane	marshmallow bait
Dapple	rainbow-blasting	crystal conjuring	left-hooved sparkler	glittering silver mane	marshmallow bait
Raindrop	sparkle-dusting	starlight levitation	left-hooved sparkler	glittering silver mane	rustling plastic bags
Quartz	horn-glowing	crystal conjuring	left-hooved sparkler	glittering silver mane	rustling plastic bags
Barnaby	sparkle-dusting	starlight levitation	right-hooved sparkler	glittering silver mane	marshmallow bait
Iris	cloud-shaping	rainbow shielding	left-hooved sparkler	neon pink mane	marshmallow bait
Stardust	cloud-shaping	rainbow shielding	left-hooved sparkler	pastel purple mane	marshmallow bait
Twinkle	horn-glowing	glitter teleportation	left-hooved sparkler	neon pink mane	marshmallow bait
Opal	cloud-shaping	dream weaving	left-hooved sparkler	pastel purple mane	rustling plastic bags
Celestia	horn-glowing	starlight levitation	left-hooved sparkler	neon pink mane	rustling plastic bags
Flutter	melody-humming	crystal conjuring	left-hooved sparkler	glittering silver mane	rustling plastic bags
Glimmer	rainbow-blasting	rainbow shielding	right-hooved sparkler	pastel purple mane	sour lemon drops
Nebula	sparkle-dusting	rainbow shielding	left-hooved sparkler	glittering silver mane	rustling plastic bags
Eclipse	horn-glowing	starlight levitation	right-hooved sparkler	neon pink mane	marshmallow bait
Amethyst	rainbow-blasting	crystal conjuring	right-hooved sparkler	glittering silver mane	rustling plastic bags

CLUE 1

Fractions of a number

We found a torn recipe for magic cloud-bread near the scene. Only a fraction of the golden flour was used, and we need to calculate that portion to find our first lead.

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

10 39 3 26 37 15 15 8 37 33 7 28 3 31 33 28 10

11 3 8 26 3 7 17 3 8 6 31

11 3 8 26 3 7 17 3 8 6 31

2/6 of 30 = → **T**

$$2/6 \text{ of } 117 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$2/10 \text{ of } 185 = \boxed{} \rightarrow \boxed{\text{I}}$$

$$\frac{1}{8} \text{ of } 136 = \boxed{} \rightarrow \boxed{\text{R}}$$

$$2/8 \text{ of } 44 = \boxed{} \rightarrow \boxed{\text{W}}$$

6/10 of 55 = → **N**

$\frac{1}{6}$ of 48 = $\rightarrow$ **A**

5/10 of 56 = → **0**

$$\frac{1}{6} \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{D}}$$

$\frac{1}{4}$ of 12 = $\rightarrow$ **E**

$\frac{3}{4}$ of 8 = $\rightarrow$ **M**

4/8 of 30 = → **L**

2/4 of 62 = → **S**

2/6 of 78 = → **V**

Scratch space:

CLUE 2

Order of operations

A magical combination lock blocks the star-gate. To crack the code and trace the culprit, we must solve a tricky sequence of symbols using the strict order of operations.

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

T								T											
8	27	61	26	29	63	27	8	29	73	63	26	26	27	76	53	28			
			T																
19	61	25	8	27	76	76	25	61	75	26	39	28	45	50	19	61			

$2 + 2 \times 3 = \square \rightarrow \boxed{\text{T}}$

$10 \times 8 - 27 = \square \rightarrow \boxed{\text{W}}$

$13 + 5 \times 3 = \square \rightarrow \boxed{\text{A}}$

$58 + 2 \times 9 = \square \rightarrow \boxed{\text{O}}$

$8 \times 11 - 25 = \square \rightarrow \boxed{\text{G}}$

$9 \times 11 - 26 = \square \rightarrow \boxed{\text{N}}$

$5 \times 10 - 5 = \square \rightarrow \boxed{\text{R}}$

$5 \times 10 - 23 = \square \rightarrow \boxed{\text{H}}$

$8 \times 6 - 23 = \square \rightarrow \boxed{\text{F}}$

$6 \times 6 - 7 = \square \rightarrow \boxed{\text{I}}$

$6 \times 10 - 10 = \square \rightarrow \boxed{\text{K}}$

$34 + 3 \times 9 = \square \rightarrow \boxed{\text{E}}$

$9 \times 10 - 15 = \square \rightarrow \boxed{\text{D}}$

$3 + 6 \times 6 = \square \rightarrow \boxed{\text{P}}$

$2 + 8 \times 3 = \square \rightarrow \boxed{\text{S}}$

$11 + 4 \times 2 = \square \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 3

Multiplication facts (1-12)

The stables keep neat rows of glowing star-carrots. Counting these equal groups will help us figure out how many rations the thief swiped for their escape.

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

T			T					T												
80	3	25	80	10	24	72	25	80	24	77	20	5	64	24	60	11				

			T									T		
24	77	5	80	56	32	20	72	96	56	10	5	80	32	28

$8 \times 10 = \square \rightarrow \boxed{\text{T}}$

$8 \times 9 = \square \rightarrow \boxed{\text{G}}$

$8 \times 12 = \square \rightarrow \boxed{\text{P}}$

$1 \times 11 = \square \rightarrow \boxed{\text{M}}$

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

$1 \times 5 = \square \rightarrow \boxed{\text{S}}$

$5 \times 5 = \square \rightarrow \boxed{\text{E}}$

$1 \times 3 = \square \rightarrow \boxed{\text{H}}$

$10 \times 2 = \square \rightarrow \boxed{\text{N}}$

$4 \times 7 = \square \rightarrow \boxed{\text{C}}$

$8 \times 8 = \square \rightarrow \boxed{\text{F}}$

$6 \times 10 = \square \rightarrow \boxed{\text{O}}$

$4 \times 8 = \square \rightarrow \boxed{\text{I}}$

$2 \times 12 = \square \rightarrow \boxed{\text{R}}$

$7 \times 8 = \square \rightarrow \boxed{\text{L}}$

$1 \times 10 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 4

Our magic radar screen is blurry from glitter interference. It only shows the villain's flight path rounded to the nearest ten leagues, so we have to estimate carefully.

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

A number line from 0 to 10,000. The line is marked with boxes for numbers and labels for thousands. The boxes are arranged in two rows. The first row contains boxes for 700, 900, 1700, 50, 1300, 290, 170, 4300, 300, 1300, 2900, 4300, 900, 290, 30, 4300, and 700. The second row contains boxes for 290, 1300, 110, 2000, 50, 1300, 290, 1300, and 3000. The boxes for 700 and 700 are highlighted in orange and labeled 'S'.

Round 738 to the nearest hundred $\rightarrow$ **S**

Round 2,013 to the nearest thousand $\rightarrow$

Round 863 to the nearest hundred $\rightarrow$

Round 47 to the nearest ten $\rightarrow$ **V**

Round 286 to the nearest ten $\rightarrow$ **R**

Round 2,879 to the nearest hundred → **H**

Round 4,285 to the nearest hundred → **A**

Round 167 to the nearest ten $\rightarrow$ **M**

Round 349 to the nearest hundred $\rightarrow$ **N**

Round 28 to the nearest ten $\rightarrow$ **W**

Round 1,680 to the nearest hundred $\rightarrow$ **L**

Round 3,063 to the nearest thousand $\rightarrow$ **D**

Round 1,293 to the nearest hundred → **E**

Round 108 to the nearest ten $\rightarrow$ **C**

Scratch space:

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

We recovered a sack of sparkling star-gems dropped during the escape. Sharing them equally among our tracking squads will reveal the exact coordinates of the hideout.

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:

$18 \div 6 = \boxed{}$

$24 \div 4 = \boxed{}$

$64 \div 8 = \boxed{}$

$4 \div 2 = \boxed{}$

$42 \div 6 = \boxed{}$

$30 \div 3 = \boxed{}$

$110 \div 10 = \boxed{}$

$99 \div 11 = \boxed{}$

$48 \div 4 = \boxed{}$

$32 \div 8 = \boxed{}$

$9 \div 9 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain swiped the magic horn-polish, then galloped through the star-gate.
2. The villain shattered the prisma-crystal, then hopped onto a storm cloud.
3. The villain swiped the magic horn-polish, then sprinted into the whispering woods.
4. The villain swiped the magic horn-polish, then vanished in a pink puff.
5. The villain nicked the silver bridle, then hopped onto a storm cloud.
6. The villain stole the golden clover, then sprinted into the whispering woods.
7. The villain stole the golden clover, then vanished in a pink puff.
8. The villain nicked the silver bridle, then galloped through the star-gate.
9. The villain scrambled the stardust map, then galloped through the star-gate.
10. The villain shattered the prisma-crystal, then vanished in a pink puff.
11. The villain nicked the silver bridle, then sprinted into the whispering woods.
12. The villain scrambled the stardust map, then dashed down the rainbow path.

Answer Key

The Great Prism Valley Capers

Culprit: Nebula

sparkle-dusting · rainbow shielding · left-hooved sparkler · glittering silver mane · rustling plastic bags

Trail: Start 21 → Clue 1 19 → Clue 2 11 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT WEAVE DREAMS"

$\frac{2}{6}$ of 30 = 10 (T) · $\frac{2}{6}$ of 117 = 39 (H) · $\frac{2}{10}$ of 185 = 37 (I) · $\frac{1}{8}$ of 136 = 17 (R) · $\frac{2}{8}$ of 44 = 11 (W) · $\frac{6}{10}$ of 55 = 33 (N) · $\frac{1}{6}$ of 48 = 8 (A) · $\frac{5}{10}$ of 56 = 28 (O) · $\frac{1}{6}$ of 42 = 7 (D) · $\frac{1}{4}$ of 12 = 3 (E) · $\frac{3}{4}$ of 8 = 6 (M) · $\frac{4}{8}$ of 30 = 15 (L) · $\frac{2}{4}$ of 62 = 31 (S) · $\frac{2}{6}$ of 78 = 26 (V)

Clue 2 (Order of operations): "THE SIGHTINGS SHOW A LEFT HOOVED SPARKLE"

$2 + 2 \times 3 = 8$ (T) · $10 \times 8 - 27 = 53$ (W) · $13 + 5 \times 3 = 28$ (A) · $58 + 2 \times 9 = 76$ (O) · $8 \times 11 - 25 = 63$ (G) · $9 \times 11 - 26 = 73$ (N) · $5 \times 10 - 5 = 45$ (R) · $5 \times 10 - 23 = 27$ (H) · $8 \times 6 - 23 = 25$ (F) · $6 \times 6 - 7 = 29$ (I) · $6 \times 10 - 10 = 50$ (K) · $34 + 3 \times 9 = 61$ (E) · $9 \times 10 - 15 = 75$ (D) · $3 + 6 \times 6 = 39$ (P) · $2 + 8 \times 3 = 26$ (S) · $11 + 4 \times 2 = 19$ (L)

Clue 3 (Multiplication facts (1-12)): "THE TARGET RUNS FROM RUSTLING PLASTIC"

$8 \times 10 = 80$ (T) · $8 \times 9 = 72$ (G) · $8 \times 12 = 96$ (P) · $1 \times 11 = 11$ (M) · $11 \times 7 = 77$ (U) · $1 \times 5 = 5$ (S) · $5 \times 5 = 25$ (E) · $1 \times 3 = 3$ (H) · $10 \times 2 = 20$ (N) · $4 \times 7 = 28$ (C) · $8 \times 8 = 64$ (F) · $6 \times 10 = 60$ (O) · $4 \times 8 = 32$ (I) · $2 \times 12 = 24$ (R) · $7 \times 8 = 56$ (L) · $1 \times 10 = 10$ (A)

Clue 4 (Rounding): "SILVER MANE HAIR WAS RECOVERED"

Round 738 to the nearest hundred = 700 (S) · Round 2,013 to the nearest thousand = 2000 (O) · Round 863 to the nearest hundred = 900 (I) · Round 47 to the nearest ten = 50 (V) · Round 286 to the nearest ten = 290 (R) · Round 2,879 to the nearest hundred = 2900 (H) · Round 4,285 to the nearest hundred = 4300 (A) · Round 167 to the nearest ten = 170 (M) · Round 349 to the nearest hundred = 300 (N) · Round 28 to the nearest ten = 30 (W) · Round 1,680 to the nearest hundred = 1700 (L) · Round 3,063 to the nearest thousand = 3000 (D) · Round 1,293 to the nearest hundred = 1300 (E) · Round 108 to the nearest ten = 110 (C)

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

$18 \div 6 = 3$ · $24 \div 4 = 6$ · $64 \div 8 = 8$ · $4 \div 2 = 2$ · $42 \div 6 = 7$ · $30 \div 3 = 10$ · $110 \div 10 = 11$ · $99 \div 11 = 9$ · $48 \div 4 = 12$ · $32 \div 8 = 4$ · $9 \div 9 = 1$