



Mystery at Graveyard Hill

Grade 7 math · Fractions of a number, Word problems, Multiplication, Place value · Reading level grades 5-6

Detective: _____ Date: _____

A spooky zombie outbreak has thrown Foggy Hollow into chaos! Decipher the clues to reveal which culprit led the haunting.

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 Zombie Mastermind is _____

Possible suspects

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

NAME	ZOMBIE SPELL	HAUNTED GEAR	DOMINANT HAND	HAIR STYLE	SECRET DEFENSE
Ivy Iron	decay beam	skull ring	right handed	silver streak hair	fresh garlic
Vera Vance	shadow creep	grave key	right handed	silver streak hair	fresh garlic
Bram Bones	mist cloak	grave key	left handed	silver streak hair	fresh garlic
Jasper Gloom	decay beam	cursed lantern	left handed	green spiky hair	loud sirens
Corbin Creep	shadow creep	rusty shovel	right handed	silver streak hair	bright flashlights
Silas Shade	mist cloak	spooky compass	left handed	green spiky hair	bright flashlights
Rowan Raven	mist cloak	spooky compass	right handed	silver streak hair	fresh garlic
Hazel Haunt	grave summon	cursed lantern	left handed	green spiky hair	bright flashlights
Darius Dark	decay beam	spooky compass	left handed	silver streak hair	loud sirens
Felix Frost	mist cloak	grave key	right handed	silver streak hair	fresh garlic
Victor Void	mist cloak	spooky compass	right handed	green spiky hair	bright flashlights
Gavin Ghost	bone rattle	spooky compass	right handed	silver streak hair	loud sirens
Aria Ash	grave summon	skull ring	right handed	silver streak hair	fresh garlic
Chloe Cobweb	bone rattle	rusty shovel	right handed	silver streak hair	loud sirens
Nora Night	bone rattle	cursed lantern	right handed	silver streak hair	fresh garlic
Tristan Tomb	grave summon	grave key	right handed	green spiky hair	loud sirens
Elena Ember	shadow creep	rusty shovel	left handed	silver streak hair	bright flashlights
Gideon Grave	decay beam	cursed lantern	right handed	purple messy hair	fresh garlic
Fiona Fog	mist cloak	spooky compass	right handed	purple messy hair	fresh garlic
Luna Lurk	grave summon	spooky compass	right handed	purple messy hair	fresh garlic
Caleb Crypt	shadow creep	rusty shovel	right handed	green spiky hair	bright flashlights

Fractions of a number

The caretaker counted the gravestones marked with spell runes to figure out how many fraction parts held power.

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

Diagram illustrating the arrangement of boxes and numbers:

Top Row (18 boxes):

- Box 1: T (orange shading)
- Box 2: 51
- Box 3: 33
- Box 4: 2
- Box 5: 8
- Box 6: 43
- Box 7: 44
- Box 8: 44
- Box 9: 13
- Box 10: 43
- Box 11: 21
- Box 12: 18
- Box 13: 35
- Box 14: 2
- Box 15: 19
- Box 16: 21
- Box 17: 35
- Box 18: T (orange shading)

Bottom Row (14 boxes):

- Box 1: 37
- Box 2: 2
- Box 3: 13
- Box 4: 9
- Box 5: 13
- Box 6: 19
- Box 7: 6
- Box 8: 15
- Box 9: 44
- Box 10: 44
- Box 11: 9
- Box 12: 43
- Box 13: 21
- Box 14: 47

$$5/10 \text{ of } 102 = \boxed{} \rightarrow \boxed{\text{T}}$$

$\frac{1}{8}$ of 16 = $\rightarrow$ **E**

$\frac{1}{3}$ of 141 = $\rightarrow$ **G**

$$\frac{1}{2} \text{ of } 42 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$\frac{1}{2} \text{ of } 88 = \boxed{} \rightarrow \boxed{\text{L}}$$

5/6 of 18 = → **U**

$$\frac{1}{6} \text{ of } 48 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$\frac{3}{8}$ of 48 = $\rightarrow$ **D**

$$3/10 \text{ of } 30 = \boxed{} \rightarrow \boxed{\text{R}}$$

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

$1/5$ of 175 = $\rightarrow$

$$\frac{1}{8} \text{ of } 104 = \boxed{} \rightarrow \boxed{\mathbf{A}}$$

2/6 of 129 = →

$$\frac{1}{4} \text{ of } 24 = \boxed{} \rightarrow \boxed{\text{K}}$$

$$6/10 \text{ of } 55 = \boxed{} \rightarrow \boxed{\text{H}}$$

$3/6$ of $38 = \boxed{} \rightarrow \boxed{\text{S}}$

Scratch space:

CLUE 2

Word problems

The defense team tallied up their zombie survival gear to see how many supplies remained.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R									D	E	D
74	92	63	15	20	15	52	17				

.

Cemetery Guard found 39 glowing pumpkins yesterday and 35 more today. How many glowing pumpkins in all?

Answer: → **R**

There were 72 haunted mirrors. 9 were used up. How many haunted mirrors are left?

Answer: → **G**

There were 47 silver padlocks. 30 were used up. How many silver padlocks are left?

Answer: → **N**

Cemetery Guard lined up 4 rows of 5 silver padlocks. How many silver padlocks in all?

Answer: → **T**

Cemetery Guard found 11 haunted mirrors yesterday and 81 more today. How many haunted mirrors in all?

Answer: → **I**

There were 54 haunted mirrors. 2 were used up. How many haunted mirrors are left?

Answer: → **A**

Cemetery Guard lined up 3 rows of 5 haunted mirrors. How many haunted mirrors in all?

Answer: → **H**

Scratch space:

CLUE 3
Multiplication facts (1-12)

The town militia arranged their flashlight barricades in equal rows across the cemetery.

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

T			T										T						
10	72	45	10	81	1	56	80	16	77	14	4	6	10	72	14	45	1		
														T		T			
49	14	45	6	72	80	77	14	21	35	12	77	10	10	72	45	63			

$10 \times 1 =$

→ **T**

$2 \times 8 =$

→ **U**

$3 \times 7 =$

→ **L**

$9 \times 7 =$

→ **M**

$9 \times 8 =$

→ **H**

$1 \times 12 =$

→ **C**

$10 \times 8 =$

→ **G**

$7 \times 8 =$

→ **N**

$3 \times 2 =$

→ **S**

$7 \times 7 =$

→ **F**

$2 \times 7 =$

→ **R**

$5 \times 7 =$

→ **I**

$1 \times 4 =$

→ **D**

$9 \times 9 =$

→ **O**

$1 \times 1 =$

→ **W**

$7 \times 11 =$

→ **A**

$5 \times 9 =$

→ **E**

Scratch space:

CLUE 4 Place value

The security system recorded digits on the cemetery gate lock to find the highest value combination.

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

S						S												S
8000	100	700	9000	50	900	8000	4000	900	50	400	800	7000	400	100	900	5000	400	8000
									S									
700	50	500	4000	400	4000	4000	7000	50	8000	40	50	3000	50					

What is the value of the 8 in 78,025? → **S**

What is the value of the 4 in 619,949? → **C**

What is the value of the 4 in 94,576? → **T**

What is the value of the 1 in 75,160? → **I**

What is the value of the 7 in 37,903? → **H**

What is the value of the 5 in 787,254? → **E**

What is the value of the 5 in 617,588? → **F**

What is the value of the 9 in 819,050? → **V**

What is the value of the 7 in 53,736? → **L**

What is the value of the 3 in 873,772? → **N**

What is the value of the 5 in 45,730? → **W**

What is the value of the 4 in 20,471? → **A**

What is the value of the 9 in 81,970? → **R**

What is the value of the 8 in 64,873? → **K**

Scratch space:

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

The scout analyzed the remaining potion vials taking only a fraction of the total stash.

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:

$9/10 \text{ of } 10 = \boxed{}$

$2/6 \text{ of } 12 = \boxed{}$

$1/3 \text{ of } 18 = \boxed{}$

$2/8 \text{ of } 12 = \boxed{}$

$5/6 \text{ of } 12 = \boxed{}$

$1/8 \text{ of } 96 = \boxed{}$

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

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

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

$1/6 \text{ of } 48 = \boxed{}$

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

Step 2 - cross out the sentence with each answer:

1. The villain wrapped the area in mist, then dug with a rusty shovel.
2. The villain crept through shadows, then unlocked gates with a grave key.
3. The villain cast a decay beam, then flashed a skull ring.
4. The villain wrapped the area in mist, then unlocked gates with a grave key.
5. The villain crept through shadows, then checked a spooky compass.
6. The villain wrapped the area in mist, then checked a spooky compass.
7. The villain summoned grave minions, then flashed a skull ring.
8. The villain crept through shadows, then flashed a skull ring.
9. The villain shook the ground with bone rattle, then swung a cursed lantern.
10. The villain cast a decay beam, then swung a cursed lantern.
11. The villain shook the ground with bone rattle, then dug with a rusty shovel.
12. The villain summoned grave minions, then unlocked gates with a grave key.

Answer Key

Mystery at Graveyard Hill

Culprit: Vera Vance

shadow creep · grave key · right handed · silver streak hair · fresh garlic

Trail: Start 21 → Clue 1 19 → Clue 2 13 → Clue 3 7 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE VILLAIN DOES NOT WEAR A SKULL RING"

$5/10$ of 102 = 51 (T) · $1/8$ of 16 = 2 (E) · $1/3$ of 141 = 47 (G) · $1/2$ of 42 = 21 (N) · $1/2$ of 88 = 44 (L) · $5/6$ of 18 = 15 (U) · $1/6$ of 48 = 8 (V) · $3/8$ of 48 = 18 (D) · $3/10$ of 30 = 9 (R) · $2/10$ of 185 = 37 (W) · $1/5$ of 175 = 35 (O) · $1/8$ of 104 = 13 (A) · $2/6$ of 129 = 43 (I) · $1/4$ of 24 = 6 (K) · $6/10$ of 55 = 33 (H) · $3/6$ of 38 = 19 (S)

Clue 2 (Word problems): "RIGHT HANDED"

Cemetery Guard found 39 glowing pumpkins yesterday and 35 more today. How many glowing pumpkins in all? = 74 (R) · There were 72 haunted mirrors. 9 were used up. How many haunted mirrors are left? = 63 (G) · There were 47 silver padlocks. 30 were used up. How many silver padlocks are left? = 17 (N) · Cemetery Guard lined up 4 rows of 5 silver padlocks. How many silver padlocks in all? = 20 (T) · Cemetery Guard found 11 haunted mirrors yesterday and 81 more today. How many haunted mirrors in all? = 92 (I) · There were 54 haunted mirrors. 2 were used up. How many haunted mirrors are left? = 52 (A) · Cemetery Guard lined up 3 rows of 5 haunted mirrors. How many haunted mirrors in all? = 15 (H)

Clue 3 (Multiplication facts (1-12)): "THE TOWN GUARDS THREW FRESH GARLIC AT THEM"

$10 \times 1 = 10$ (T) · $2 \times 8 = 16$ (U) · $3 \times 7 = 21$ (L) · $9 \times 7 = 63$ (M) · $9 \times 8 = 72$ (H) · $1 \times 12 = 12$ (C) · $10 \times 8 = 80$ (G) · $7 \times 8 = 56$ (N) · $3 \times 2 = 6$ (S) · $7 \times 7 = 49$ (F) · $2 \times 7 = 14$ (R) · $5 \times 7 = 35$ (I) · $1 \times 4 = 4$ (D) · $9 \times 9 = 81$ (O) · $1 \times 1 = 1$ (W) · $7 \times 11 = 77$ (A) · $5 \times 9 = 45$ (E)

Clue 4 (Place value): "SILVER STREAK HAIR WAS LEFT AT THE SCENE"

What is the value of the 8 in 78,025? = 8000 (S) · What is the value of the 4 in 619,949? = 40 (C) · What is the value of the 4 in 94,576? = 4000 (T) · What is the value of the 1 in 75,160? = 100 (I) · What is the value of the 7 in 37,903? = 7000 (H) · What is the value of the 5 in 787,254? = 50 (E) · What is the value of the 5 in 617,588? = 500 (F) · What is the value of the 9 in 819,050? = 9000 (V) · What is the value of the 7 in 53,736? = 700 (L) · What is the value of the 3 in 873,772? = 3000 (N) · What is the value of the 5 in 45,730? = 5000 (W) · What is the value of the 4 in 20,471? = 400 (A) · What is the value of the 9 in 81,970? = 900 (R) · What is the value of the 8 in 64,873? = 800 (K)

Clue 5 (Fractions of a number): surviving statement is box 2 → Vera Vance

$9/10$ of 10 = 9 · $2/6$ of 12 = 4 · $1/3$ of 18 = 6 · $2/8$ of 12 = 3 · $5/6$ of 12 = 10 · $1/8$ of 96 = 12 · $2/10$ of 5 = 1 · $5/10$ of 10 = 5 · $3/6$ of 22 = 11 · $1/6$ of 48 = 8 · $5/10$ of 14 = 7