



The Gloomwood Gymnasium Ghoul

Grade 5 math · Fractions of a number, Word problems, Multiplication, Multi-step word problems · Reading level grades 7-9

Detective: _____ Date: _____

The Gloomwood High Halloween Dance was in full swing until someone sabotaged the main punch bowl with glowing green slime and locked the gymnasium doors. The Phantom Prankster is still hiding among the costumed guests. As the lead student detective, you must analyze the clues, solve the math mysteries, and unmask the culprit before the decorations melt away.

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 Phantom Prankster is _____

Possible suspects

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

NAME	SABOTAGE SKILL	SPOOKY COSTUME GEAR	DOMINANT HAND	WIG COLOR	FEAR FACTOR
Morticia Addams	Stray fog machines	Skeleton mask	Right-handed	Pumpkin orange wig	Spooky ghost stories
Jason Voorhees	Releasing bat swarms	Witch broomstick	Right-handed	Midnight black wig	Spooky ghost stories
Raven Queen	Shorting the lights	Mechanical spider legs	Left-handed	Midnight black wig	Bright flashlights
Elvira Mistress	Stray fog machines	Mechanical spider legs	Left-handed	Slime green wig	Bright flashlights
Marnie Piper	Stray fog machines	Glow-in-the-dark cape	Left-handed	Slime green wig	Bright flashlights
Norman Bates	Stray fog machines	Witch broomstick	Left-handed	Slime green wig	Bright flashlights
Sally Ragdoll	Spilling fake blood	Skeleton mask	Left-handed	Slime green wig	Bright flashlights
Wednesday Addams	Haunting the speakers	Vampire fangs	Right-handed	Pumpkin orange wig	Loud pop music
Freddy Krueger	Haunting the speakers	Mechanical spider legs	Left-handed	Slime green wig	Spooky ghost stories
Samhain Jones	Spilling fake blood	Mechanical spider legs	Right-handed	Midnight black wig	Loud pop music
Jack Skellington	Haunting the speakers	Vampire fangs	Left-handed	Pumpkin orange wig	Bright flashlights
Casper Thorne	Spilling fake blood	Vampire fangs	Right-handed	Slime green wig	Spooky ghost stories
Laurie Strode	Stray fog machines	Witch broomstick	Left-handed	Midnight black wig	Bright flashlights
Carrie White	Haunting the speakers	Skeleton mask	Right-handed	Slime green wig	Bright flashlights
Herman Munster	Releasing bat swarms	Skeleton mask	Left-handed	Pumpkin orange wig	Spooky ghost stories
Lily Munster	Haunting the speakers	Skeleton mask	Right-handed	Pumpkin orange wig	Bright flashlights
Michael Myers	Releasing bat swarms	Vampire fangs	Right-handed	Midnight black wig	Bright flashlights
Buffy Summers	Haunting the speakers	Mechanical spider legs	Left-handed	Pumpkin orange wig	Spooky ghost stories
Gomez Addams	Spilling fake blood	Skeleton mask	Left-handed	Slime green wig	Loud pop music
Sabrina Spellman	Spilling fake blood	Vampire fangs	Left-handed	Slime green wig	Bright flashlights
Regan MacNeil	Releasing bat swarms	Vampire fangs	Left-handed	Slime green wig	Spooky ghost stories

Fractions of a number

To unlock the first lockbox left by the prankster, we need to sort through the student council's inventory records. Solve these word problems to find the code.

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

Diagram illustrating a sequence of numbers arranged in two rows, with some boxes highlighted in orange and labeled 'T'.

Top Row (Left to Right):

- Box 1 (Orange, T): 25
- Box 2 (White): 24
- Box 3 (White): 8
- Box 4 (White): 9
- Box 5 (White): 10
- Box 6 (White): 9
- Box 7 (White): 38
- Box 8 (White): 8
- Box 9 (White): 31
- Box 10 (Orange, T): 25
- Box 11 (White): 32
- Box 12 (White): 3
- Box 13 (White): 8
- Box 14 (White): 9
- Box 15 (White): 6
- Box 16 (White): 3
- Box 17 (Orange, T): 25

Bottom Row (Left to Right):

- Box 1 (White): 24
- Box 2 (White): 33
- Box 3 (White): 34
- Box 4 (White): 8
- Box 5 (White): 33
- Box 6 (White): 2
- Box 7 (White): 22
- Box 8 (Orange, T): 25
- Box 9 (White): 31
- Box 10 (White): 24
- Box 11 (White): 35
- Box 12 (White): 11
- Box 13 (White): 3
- Box 14 (White): 3
- Box 15 (White): 15
- Box 16 (White): 9
- Box 17 (Orange, T): 25
- Box 18 (White): 22
- Box 19 (White): 31
- Box 20 (White): 19

$$1/8 \text{ of } 200 = \boxed{} \rightarrow \boxed{\text{T}}$$

$2/4$ of 64 = $\rightarrow$ **D**

$$\frac{1}{8} \text{ of } 80 = \boxed{} \rightarrow \boxed{\text{U}}$$

5/10 of 30 = → **M**

$3/5$ of 15 = $\rightarrow$ **S**

$\frac{1}{2}$ of 62 = $\rightarrow$ **C**

$\frac{1}{4}$ of 8 = $\rightarrow$ **W**

$\frac{1}{4}$ of 32 = $\rightarrow$ **E**

$$1/6 \text{ of } 144 = \boxed{} \rightarrow \boxed{\text{H}}$$

$6/8$ of $44 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$\frac{3}{4}$ of 4 = $\rightarrow$

$1/5 \text{ of } 55 = \boxed{} \rightarrow \boxed{\text{R}}$

$$\frac{2}{3} \text{ of } 51 = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

2/4 of 12 = → **N**

4/8 of 38 = → **K**

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

2/10 of 110 = →

$\frac{2}{3}$ of 57 = $\rightarrow$ **P**

Scratch space:

CLUE 2

Word problems

The spooky punch recipe was tampered with. We found a notebook detailing fractions of the ingredients used, but some numbers are smudged. Figure out the fractional parts to reveal the secret ingredient.

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

A witness saw the villain was L D D .

16 81 120 72 61 89 49 81

Chaperone lined up 2 rows of 8 mini pumpkins. How many mini pumpkins in all?

Answer: → L

There were 68 glow sticks. 19 were used up. How many glow sticks are left?

Answer: → N

There were 145 fake cobwebs. 25 were used up. How many fake cobwebs are left?

Answer: → F

There were 97 mini pumpkins. 36 were used up. How many mini pumpkins are left?

Answer: → H

Chaperone lined up 9 rows of 9 plastic fangs. How many plastic fangs in all?

Answer: → E

Chaperone lined up 6 rows of 12 plastic fangs. How many plastic fangs in all?

Answer: → T

Chaperone found 82 mini pumpkins yesterday and 7 more today. How many mini pumpkins in all?

Answer: → A

Scratch space:

Multiplication facts (1-12)

The gym's row seating has been rearranged into mysterious grids. Multiplying the rows of chairs gives us the coordinate of the next evidence bag.

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

77 25 49 84 27 4 6 49 63 49 144 6 25 49 108

121 120 7 56 25 120 8 14 25 77 56 56 25 8 108 49 144

$$11 \times 7 = \boxed{} \rightarrow \boxed{\text{T}}$$

$$9 \times 12 = \boxed{} \rightarrow \boxed{\text{N}}$$

$$10 \times 12 = \boxed{} \rightarrow \boxed{\text{L}}$$

$6 \times 1 = \boxed{} \rightarrow \boxed{\text{W}}$

$12 \times 7 = \boxed{} \rightarrow \boxed{\text{Y}}$

$5 \times 5 =$ $\rightarrow$ **H**

$7 \times 2 = \boxed{} \rightarrow \boxed{\text{G}}$

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

$7 \times 1 = \square \rightarrow \mathbf{A}$

$$7 \times 8 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$9 \times 7 = \square \rightarrow \boxed{\mathbf{R}}$

$11 \times 11 = \square \rightarrow \mathbf{F}$

$12 \times 12 = \boxed{} \rightarrow \boxed{\text{D}}$

$4 \times 2 = \boxed{} \rightarrow \boxed{I}$

$1 \times 4 = \boxed{} \rightarrow \boxed{0}$

$9 \times 3 = \square \rightarrow \mathbf{C}$

Scratch space:

CLUE 4 Multi-step word problems

We found a complex setup of ticket sales and candy purchases. Work through the multi-step records of the ticket booth to crack the combination lock on the stage door.

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

A strand of S N W hair turned up at the scene.

Chaperone collected 221 glow sticks in the morning and 209 glow sticks in the afternoon, then split them equally among 5 Monster Squad. How many glow sticks did each get?

Answer: → **S**

Chaperone filled 9 boxes with 5 mini pumpkins each, then found 19 more mini pumpkins. How many mini pumpkins are there in all?

Answer: → **E**

There were 213 fake cobwebs in all. 1 Monster Squad used 15 fake cobwebs each. The other 6 Monster Squad shared the rest equally. How many fake cobwebs did each of the other Monster Squad get?

Answer: → **L**

There were 334 glow sticks in all. 2 Monster Squad used 15 glow sticks each. The other 4 Monster Squad shared the rest equally. How many glow sticks did each of the other Monster Squad get?

Answer: → **R**

Chaperone earned 3 fake cobwebs in each of 2 rounds, plus 48 bonus fake cobwebs. Then 8 fake cobwebs were lost. How many fake cobwebs are left?

Answer: → **G**

Chaperone collected 14 mini pumpkins in the morning and 82 mini pumpkins in the afternoon, then split them equally among 4 Monster Squad. How many mini pumpkins did each get?

Answer: → **M**

There were 147 plastic fangs in all. 36 plastic fangs were set aside. The rest were shared equally among 3 Monster Squad. How many plastic fangs did each get?

Answer: →

Scratch space:

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

A trail of candy corn leads to the locker rooms, but only a fraction of the total trail remains. Calculate the remaining portions to pinpoint where the suspect fled.

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:

$3/6 \text{ of } 8 = \boxed{}$

$2/3 \text{ of } 18 = \boxed{}$

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

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

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

$7/10 \text{ of } 10 = \boxed{}$

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

$1/10 \text{ of } 110 = \boxed{}$

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

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

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

Step 2 - cross out the sentence with each answer:

1. The villain shorted out the gymnasium lights, then showed off their sharp vampire fangs.
2. The villain shorted out the gymnasium lights, then flashed their glow-in-the-dark cape.
3. The villain released a swarm of rubber bats, then glares through a scary skeleton mask.
4. The villain spilled fake blood on the stage, then showed off their sharp vampire fangs.
5. The villain spilled fake blood on the stage, then glares through a scary skeleton mask.
6. The villain released a swarm of rubber bats, then swept away on a witch broomstick.
7. The villain turned the fog machines to maximum, then swept away on a witch broomstick.
8. The villain blared terrifying noises over the speakers, then clattered their mechanical spider legs.
9. The villain blared terrifying noises over the speakers, then glares through a scary skeleton mask.
10. The villain turned the fog machines to maximum, then clattered their mechanical spider legs.
11. The villain spilled fake blood on the stage, then clattered their mechanical spider legs.
12. The villain turned the fog machines to maximum, then flashed their glow-in-the-dark cape.

Answer Key

The Gloomwood Gymnasium Ghoul

Culprit: Sally Ragdoll

Spilling fake blood · Skeleton mask · Left-handed · Slime green wig · Bright flashlights

Trail: Start 21 → Clue 1 18 → Clue 2 11 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Fractions of a number): "THE SUSPECT DOES NOT HAVE A WITCH BROOMSTICK"

$1/8$ of 200 = 25 (T) · $2/4$ of 64 = 32 (D) · $1/8$ of 80 = 10 (U) · $5/10$ of 30 = 15 (M) · $3/5$ of 15 = 9 (S) · $1/2$ of 62 = 31 (C) · $1/4$ of 8 = 2 (W) · $1/4$ of 32 = 8 (E) · $1/6$ of 144 = 24 (H) · $6/8$ of 44 = 33 (A) · $3/4$ of 4 = 3 (O) · $1/5$ of 55 = 11 (R) · $2/3$ of 51 = 34 (V) · $2/4$ of 12 = 6 (N) · $4/8$ of 38 = 19 (K) · $1/5$ of 175 = 35 (B) · $2/10$ of 110 = 22 (I) · $2/3$ of 57 = 38 (P)

Clue 2 (Word problems): "LEFT HANDED"

Chaperone lined up 2 rows of 8 mini pumpkins. How many mini pumpkins in all? = 16 (L) · There were 68 glow sticks. 19 were used up. How many glow sticks are left? = 49 (N) · There were 145 fake cobwebs. 25 were used up. How many fake cobwebs are left? = 120 (F) · There were 97 mini pumpkins. 36 were used up. How many mini pumpkins are left? = 61 (H) · Chaperone lined up 9 rows of 9 plastic fangs. How many plastic fangs in all? = 81 (E) · Chaperone lined up 6 rows of 12 plastic fangs. How many plastic fangs in all? = 72 (T) · Chaperone found 82 mini pumpkins yesterday and 7 more today. How many mini pumpkins in all? = 89 (A)

Clue 3 (Multiplication facts (1-12)): "THEY COWERED WHEN FLASHLIGHTS SHINED"

$11 \times 7 = 77$ (T) · $9 \times 12 = 108$ (N) · $10 \times 12 = 120$ (L) · $6 \times 1 = 6$ (W) · $12 \times 7 = 84$ (Y) · $5 \times 5 = 25$ (H) · $7 \times 2 = 14$ (G) · $7 \times 7 = 49$ (E) · $7 \times 1 = 7$ (A) · $7 \times 8 = 56$ (S) · $9 \times 7 = 63$ (R) · $11 \times 11 = 121$ (F) · $12 \times 12 = 144$ (D) · $4 \times 2 = 8$ (I) · $1 \times 4 = 4$ (O) · $9 \times 3 = 27$ (C)

Clue 4 (Multi-step word problems): "SLIME GREEN WIG"

Chaperone collected 221 glow sticks in the morning and 209 glow sticks in the afternoon, then split them equally among 5 Monster Squad. How many glow sticks did each get? = 86 (S) · Chaperone filled 9 boxes with 5 mini pumpkins each, then found 19 more mini pumpkins. How many mini pumpkins are there in all? = 64 (E) · There were 213 fake cobwebs in all. 1 Monster Squad used 15 fake cobwebs each. The other 6 Monster Squad shared the rest equally. How many fake cobwebs did each of the other Monster Squad get? = 33 (L) · There were 334 glow sticks in all. 2 Monster Squad used 15 glow sticks each. The other 4 Monster Squad shared the rest equally. How many glow sticks did each of the other Monster Squad get? = 76 (R) · Chaperone earned 3 fake cobwebs in each of 2 rounds, plus 48 bonus fake cobwebs. Then 8 fake cobwebs were lost. How many fake cobwebs are left? = 46 (G) · Chaperone collected 14 mini pumpkins in the morning and 82 mini pumpkins in the afternoon, then split them equally among 4 Monster Squad. How many mini pumpkins did each get? = 24 (M) · There were 147 plastic fangs in all. 36 plastic fangs were set aside. The rest were shared equally among 3 Monster Squad. How many plastic fangs did each get? = 37 (I)

Clue 5 (Fractions of a number): surviving statement is box 5 → Sally Ragdoll

$3/6$ of 8 = 4 · $2/3$ of 18 = 12 · $5/6$ of 12 = 10 · $2/4$ of 2 = 1 · $9/10$ of 10 = 9 · $7/10$ of 10 = 7 · $2/8$ of 8 = 2 · $1/10$ of 110 = 11 · $1/4$ of 12 = 3 · $1/3$ of 18 = 6 · $2/4$ of 16 = 8