



The Mystery of the Haunted Harvest

Grade 7 math · Integers, Percentages, Order of operations, Exponents, Two-step equations · Reading level grades 5-6

Detective: _____ **Date:** _____

During the annual Raven Hollow Halloween Festival, a masked culprit crashed the party and stole the Golden Pumpkin Trophy. Gather clues around the spooky carnival grounds to catch the guilty suspect.

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	MAIN POWER	SECONDARY TRICK	DOMINANT HAND	HAIR COLOR	WEAKNESS
Piper Pumpkin	Pumpkin Blast	Skeleton Dance	Right Handed	Orange Hair	Silver Bell
Felix Fang	Ghost Phase	Lantern Flare	Right Handed	Silver Hair	Garlic Spray
Baron Von Boo	Ghost Phase	Lantern Flare	Right Handed	Orange Hair	Silver Bell
Willa Web	Willow Whammy	Lantern Flare	Left Handed	Silver Hair	Garlic Spray
Rory Raven	Shadow Stride	Tomb Shake	Left Handed	Silver Hair	Garlic Spray
Gabe Ghoul	Pumpkin Blast	Lantern Flare	Left Handed	Orange Hair	Glow Stick
Nora Night	Shadow Stride	Skeleton Dance	Left Handed	Orange Hair	Garlic Spray
Kendra Kraven	Bat Swarm	Skeleton Dance	Right Handed	Black Hair	Garlic Spray
Otto Owl	Shadow Stride	Candy Theft	Left Handed	Orange Hair	Silver Bell
Countess Clara	Ghost Phase	Lantern Flare	Right Handed	Black Hair	Silver Bell
Luna Lantern	Pumpkin Blast	Fog Web	Right Handed	Orange Hair	Silver Bell
Quinn Quartz	Ghost Phase	Lantern Flare	Right Handed	Orange Hair	Glow Stick
Xander Xray	Ghost Phase	Lantern Flare	Right Handed	Silver Hair	Glow Stick
Milo Mummy	Bat Swarm	Skeleton Dance	Right Handed	Orange Hair	Garlic Spray
Igor Ink	Willow Whammy	Lantern Flare	Left Handed	Orange Hair	Garlic Spray
Toby Tomb	Willow Whammy	Candy Theft	Right Handed	Silver Hair	Garlic Spray
Vera Vamp	Pumpkin Blast	Skeleton Dance	Left Handed	Silver Hair	Garlic Spray
Jasper Jack	Bat Swarm	Lantern Flare	Right Handed	Orange Hair	Silver Bell
Stella Spook	Willow Whammy	Lantern Flare	Right Handed	Silver Hair	Silver Bell
Hester Hex	Willow Whammy	Candy Theft	Right Handed	Orange Hair	Silver Bell
Zane Zombie	Willow Whammy	Tomb Shake	Left Handed	Black Hair	Silver Bell

CLUE 1

You check the dungeon temperature monitor, tracking drops below zero as icy footprints lead down the hall.

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

A 2x10 grid of boxes. The top row contains the following sequence: an orange box with 'T', three empty boxes, a box with '3', a box with '19', a box with '9', a box with '9', a box with '28', a box with '19', a box with '1', four empty boxes, a box with '16', a box with '12', a box with '2', a box with '29', a box with '1', a box with '12', and an orange box with 'T'. The bottom row contains: a box with '18', a box with '29', a box with '2', three empty boxes, a box with '8', a box with '12', a box with '7', two empty boxes, a box with '23', a box with '2', and a box with '13'.

$$(-15) + 45 = \boxed{} \rightarrow \boxed{\text{T}}$$

$6 - (-13) = \boxed{} \rightarrow \boxed{19}$

$$(-3) + 28 = \boxed{} \rightarrow \boxed{\text{H}}$$

$$(-11) + 24 = \boxed{} \rightarrow \boxed{\mathbf{B}}$$

$27 - (-1) = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$$15 - (-3) = \boxed{} \rightarrow \boxed{\text{U}}$$

$5 - (-2) = \boxed{} \rightarrow \boxed{\mathbf{G}}$

$$(-7) + 36 = \boxed{} \rightarrow \boxed{\text{S}}$$

$$(-11) + 19 = \boxed{} \rightarrow \boxed{\text{F}}$$

$$(-7) + 10 = \boxed{} \rightarrow \boxed{\mathbf{v}}$$

$$(-7) + 23 = \boxed{} \rightarrow \boxed{\mathbf{D}}$$

$$(-13) + 15 = \boxed{} \rightarrow \boxed{\text{E}}$$

$$(-10) + 11 = \boxed{} \rightarrow \boxed{\text{N}}$$

$9 - (-14) = \boxed{} \rightarrow \boxed{\text{W}}$

$$(-10) + 19 = \boxed{} \rightarrow \boxed{\text{L}}$$

$$10 - (-2) = \boxed{} \rightarrow \boxed{0}$$

Scratch space:

CLUE 2 Percentages

You inspect the trick or treat tally board to calculate what percentage of candy was snatched from the table.

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

T										T								T
27	13	42	14	5	14	36	42	60	27	31	57	14	1	43	16	13	27	

13	57	3	19	42	19

$60\% \text{ of } 45 = \square \rightarrow \boxed{\text{T}}$

$20\% \text{ of } 155 = \square \rightarrow \boxed{\text{W}}$

$5\% \text{ of } 280 = \square \rightarrow \boxed{\text{S}}$

$25\% \text{ of } 4 = \square \rightarrow \boxed{\text{R}}$

$20\% \text{ of } 180 = \square \rightarrow \boxed{\text{P}}$

$25\% \text{ of } 20 = \square \rightarrow \boxed{\text{U}}$

$10\% \text{ of } 190 = \square \rightarrow \boxed{\text{D}}$

$10\% \text{ of } 130 = \square \rightarrow \boxed{\text{H}}$

$10\% \text{ of } 160 = \square \rightarrow \boxed{\text{G}}$

$75\% \text{ of } 4 = \square \rightarrow \boxed{\text{N}}$

$75\% \text{ of } 80 = \square \rightarrow \boxed{\text{C}}$

$5\% \text{ of } 840 = \square \rightarrow \boxed{\text{E}}$

$20\% \text{ of } 215 = \square \rightarrow \boxed{\text{I}}$

$25\% \text{ of } 228 = \square \rightarrow \boxed{\text{A}}$

Scratch space:

CLUE 3

Order of operations

You decode a spooky recipe scroll, following the strict order of operations to open the crypt lock.

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

A														
10	37	80	99	50	91	58	84	91	99	99	58	80	71	54

		A										A			A		
37	94	10	58	91	70	26	119	91	50	80	99	99	10	80	71	10	77

$11 \times 2 - 12 = \square \rightarrow \boxed{\text{A}}$

$44 + 2 \times 3 = \square \rightarrow \boxed{\text{V}}$

$8 \times 12 - 5 = \square \rightarrow \boxed{\text{E}}$

$73 + 3 \times 7 = \square \rightarrow \boxed{\text{C}}$

$11 \times 11 - 22 = \square \rightarrow \boxed{\text{L}}$

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

$23 + 7 \times 5 = \square \rightarrow \boxed{\text{R}}$

$5 \times 7 - 9 = \square \rightarrow \boxed{\text{T}}$

$8 \times 10 - 9 = \square \rightarrow \boxed{\text{N}}$

$28 + 7 \times 8 = \square \rightarrow \boxed{\text{B}}$

$52 + 2 \times 9 = \square \rightarrow \boxed{\text{D}}$

$5 \times 11 - 18 = \square \rightarrow \boxed{\text{S}}$

$83 + 6 \times 6 = \square \rightarrow \boxed{\text{H}}$

$5 \times 5 - 13 = \square \rightarrow \boxed{\text{Y}}$

$68 + 3 \times 4 = \square \rightarrow \boxed{\text{I}}$

$10 \times 8 - 26 = \square \rightarrow \boxed{\text{G}}$

Scratch space:

CLUE 4 Exponents

You observe supernatural ghost spores multiplying exponentially across the haunted clock tower walls.

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

O																	
64	49	9	144	400	196	225	100	49	9	144	324	225	169	196	49	196	

	O																
343	64	289	144	324	144	196	9	49	100	36	196	32	9	144	324	121	

$4^3 = \square \rightarrow \text{O}$

$14^2 = \square \rightarrow \text{E}$

$15^2 = \square \rightarrow \text{S}$

$12^2 = \square \rightarrow \text{N}$

$13^2 = \square \rightarrow \text{W}$

$3^2 = \square \rightarrow \text{A}$

$6^2 = \square \rightarrow \text{H}$

$7^3 = \square \rightarrow \text{F}$

$7^2 = \square \rightarrow \text{R}$

$18^2 = \square \rightarrow \text{D}$

$20^2 = \square \rightarrow \text{G}$

$11^2 = \square \rightarrow \text{Y}$

$10^2 = \square \rightarrow \text{T}$

$2^5 = \square \rightarrow \text{C}$

$17^2 = \square \rightarrow \text{U}$

Scratch space:

CLUE 5**Two-step equations - the last clue**

You balance the booth budget equation to figure out how many glow sticks were bought after paying the entrance fee.

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:

$6x + 2 = 44, x = \boxed{}$

$4x + 12 = 28, x = \boxed{}$

$6x + 1 = 19, x = \boxed{}$

$6x + 5 = 11, x = \boxed{}$

$4x + 8 = 48, x = \boxed{}$

$6x + 4 = 52, x = \boxed{}$

$5x + 10 = 20, x = \boxed{}$

$5x + 6 = 31, x = \boxed{}$

$5x + 9 = 64, x = \boxed{}$

$5x + 4 = 34, x = \boxed{}$

$5x + 10 = 70, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain blasted pumpkin goo across the hall, then ignited a spooky lantern flare.
2. The villain phased right through the heavy oak door, then shook the heavy stone tomb doors.
3. The villain blasted pumpkin goo across the hall, then made the skeleton decorations dance.
4. The villain cast a creepy willow whammy, then snatched the grand prize candy bucket.
5. The villain summoned a fluttering bat swarm, then shook the heavy stone tomb doors.
6. The villain blasted pumpkin goo across the hall, then trapped the guard in a sticky fog web.
7. The villain phased right through the heavy oak door, then ignited a spooky lantern flare.
8. The villain slid through the shadows silently, then ignited a spooky lantern flare.
9. The villain summoned a fluttering bat swarm, then ignited a spooky lantern flare.
10. The villain phased right through the heavy oak door, then snatched the grand prize candy bucket.
11. The villain phased right through the heavy oak door, then trapped the guard in a sticky fog web.
12. The villain slid through the shadows silently, then trapped the guard in a sticky fog web.

Answer Key

The Mystery of the Haunted Harvest

Culprit: Jasper Jack

Bat Swarm · Lantern Flare · Right Handed · Orange Hair · Silver Bell

Trail: Start 21 → Clue 1 20 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE VILLAIN DOES NOT USE FOG WEB"

$(-15) + 45 = 30$ (T) · $6 - (-13) = 19$ (I) · $(-3) + 28 = 25$ (H) · $(-11) + 24 = 13$ (B) · $27 - (-1) = 28$ (A) · $15 - (-3) = 18$ (U) · $5 - (-2) = 7$ (G) · $(-7) + 36 = 29$ (S) · $(-11) + 19 = 8$ (F) · $(-7) + 10 = 3$ (V) · $(-7) + 23 = 16$ (D) · $(-13) + 15 = 2$ (E) · $(-10) + 11 = 1$ (N) · $9 - (-14) = 23$ (W) · $(-10) + 19 = 9$ (L) · $10 - (-2) = 12$ (O)

Clue 2 (Percentages): "THE SUSPECT WAS RIGHT HANDED"

60% of 45 = 27 (T) · 20% of 155 = 31 (W) · 5% of 280 = 14 (S) · 25% of 4 = 1 (R) · 20% of 180 = 36 (P) · 25% of 20 = 5 (U) · 10% of 190 = 19 (D) · 10% of 130 = 13 (H) · 10% of 160 = 16 (G) · 75% of 4 = 3 (N) · 75% of 80 = 60 (C) · 5% of 840 = 42 (E) · 20% of 215 = 43 (I) · 25% of 228 = 57 (A)

Clue 3 (Order of operations): "A SILVER BELL RING SCARED THE VILLAIN AWAY"

$11 \times 2 - 12 = 10$ (A) · $44 + 2 \times 3 = 50$ (V) · $8 \times 12 - 5 = 91$ (E) · $73 + 3 \times 7 = 94$ (C) · $11 \times 11 - 22 = 99$ (L) · $8 \times 11 - 11 = 77$ (W) · $23 + 7 \times 5 = 58$ (R) · $5 \times 7 - 9 = 26$ (T) · $8 \times 10 - 9 = 71$ (N) · $28 + 7 \times 8 = 84$ (B) · $52 + 2 \times 9 = 70$ (D) · $5 \times 11 - 18 = 37$ (S) · $83 + 6 \times 6 = 119$ (H) · $5 \times 5 - 13 = 12$ (Y) · $68 + 3 \times 4 = 80$ (I) · $10 \times 8 - 26 = 54$ (G)

Clue 4 (Exponents): "ORANGE STRANDS WERE FOUND NEAR THE CANDY"

$4^3 = 64$ (O) · $14^2 = 196$ (E) · $15^2 = 225$ (S) · $12^2 = 144$ (N) · $13^2 = 169$ (W) · $3^2 = 9$ (A) · $6^2 = 36$ (H) · $7^3 = 343$ (F) · $7^2 = 49$ (R) · $18^2 = 324$ (D) · $20^2 = 400$ (G) · $11^2 = 121$ (Y) · $10^2 = 100$ (T) · $2^5 = 32$ (C) · $17^2 = 289$ (U)

Clue 5 (Two-step equations): surviving statement is box 9 → Jasper Jack

$6x + 2 = 44, x = 7$ · $4x + 12 = 28, x = 4$ · $6x + 1 = 19, x = 3$ · $6x + 5 = 11, x = 1$ · $4x + 8 = 48, x = 10$ · $6x + 4 = 52, x = 8$ · $5x + 10 = 20, x = 2$ · $5x + 6 = 31, x = 5$ · $5x + 9 = 64, x = 11$ · $5x + 4 = 34, x = 6$ · $5x + 10 = 70, x = 12$