The Pumpkin Patch Phantom

Grade 6 math · Place value, Addition, Subtraction, Multiplication, Division · Reading level grades 3-4

Detective: _____ **Date:** _____

The Spooksville Pumpkin Patch was ready for Halloween night, but someone scrambled the giant jack-o-lantern display! Figure out which suspect caused the chaos.

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 is _____

Possible suspects

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

NAME	SPELL CRAFT	SPOOKY GADGET	TAPPING HABIT	COSTUME MASK	MAGIC SNACK
Bruno Broom	Fog Blast	Fog Horn	Taps Right Foot	Skull Helmet	Sour Candy
Frank Stein	Bat Swarm	Candy Bag	Taps Left Foot	Witch Hat	Sour Candy
Count Vlad	Ghost Glow	Ringing Bell	Taps Right Foot	Pumpkin Head	Salted Seeds
Sam Spider	Pumpkin Beam	Glow Wand	Taps Right Foot	Witch Hat	Salted Seeds
Penny Pumpkin	Bat Swarm	Flying Broom	Taps Right Foot	Witch Hat	Apple Slices
Zelda Zap	Ghost Glow	Fog Horn	Taps Left Foot	Pumpkin Head	Salted Seeds
Wendy Witch	Pumpkin Beam	Flying Broom	Taps Left Foot	Pumpkin Head	Apple Slices
Merlin Moon	Fog Blast	Candy Bag	Taps Left Foot	Pumpkin Head	Apple Slices
Toby Tomb	Fog Blast	Candy Bag	Taps Right Foot	Witch Hat	Apple Slices
Jack Lantern	Bat Swarm	Flying Broom	Taps Left Foot	Pumpkin Head	Apple Slices
Pip Phantom	Shadow Jump	Fog Horn	Taps Right Foot	Pumpkin Head	Sour Candy
Sabrina Spell	Fog Blast	Flying Broom	Taps Left Foot	Skull Helmet	Salted Seeds
Casper Cole	Pumpkin Beam	Flying Broom	Taps Left Foot	Skull Helmet	Sour Candy
Rita Raven	Shadow Jump	Flying Broom	Taps Right Foot	Witch Hat	Sour Candy
Otto Owl	Ghost Glow	Candy Bag	Taps Left Foot	Pumpkin Head	Sour Candy
Nora Night	Pumpkin Beam	Glow Wand	Taps Left Foot	Pumpkin Head	Apple Slices
Wanda Web	Pumpkin Beam	Candy Bag	Taps Left Foot	Pumpkin Head	Salted Seeds
Mummy Mike	Shadow Jump	Flying Broom	Taps Left Foot	Witch Hat	Apple Slices
Bones Boris	Shadow Jump	Flying Broom	Taps Right Foot	Pumpkin Head	Apple Slices
Victor Vault	Bat Swarm	Ringing Bell	Taps Left Foot	Pumpkin Head	Apple Slices
Vera Vamp	Fog Blast	Glow Wand	Taps Left Foot	Witch Hat	Apple Slices

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CLUE 1 Place value

> The digital sign at the patch gate blinked with mystery code numbers. Solve the place value puzzle to unlock the phantom first secret.

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

T							T											T	
9000	10	3000	600	10	400	6000	9000	700	1000	4000	700	3000	100	6000	700	9000			
40	400	300	300	8000	400	300	800	6000	30	800	6000	30	500	3000	20	20			

What is the value of the 9 in 59,622? ☐ → T

What is the value of the 3 in 483,444? ☐ → E

What is the value of the 8 in 448,107? ☐ → Y

What is the value of the 1 in 32,128? ☐ → S

What is the value of the 5 in 37,572? ☐ → B

What is the value of the 6 in 335,610? ☐ → P

What is the value of the 4 in 84,605? ☐ → D

What is the value of the 1 in 38,018? ☐ → H

What is the value of the 1 in 521,496? ☐ → M

What is the value of the 8 in 504,865? ☐ → I

What is the value of the 4 in 150,477? ☐ → A

What is the value of the 4 in 830,949? ☐ → C

What is the value of the 7 in 21,762? ☐ → O

What is the value of the 6 in 26,984? ☐ → N

What is the value of the 2 in 40,925? ☐ → L

What is the value of the 3 in 51,132? ☐ → G

What is the value of the 3 in 565,399? ☐ → R

Scratch space:

CLUE 2

Addition

Farmer Jack tallied up all the giant pumpkins harvested from the northern patch. Add the total crop to gather the next clue.

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



5402 + 3749 = ☐ → W

2644 + 2112 = ☐ → I

1540 + 910 = ☐ → A

3624 + 4935 = ☐ → F

5023 + 4849 = ☐ → L

1595 + 2773 = ☐ → S

4633 + 4068 = ☐ → O

3154 + 6732 = ☐ → G

1265 + 1491 = ☐ → P

1750 + 2069 = ☐ → E

3772 + 4349 = ☐ → R

5101 + 3507 = ☐ → T

2818 + 5182 = ☐ → N

Scratch space:

CLUE 3 Subtraction

> Some spilled glow sticks were swept off the barn floor. Subtract the missing ones from the stock to find out what happened.

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

T							T																	
3574	2793	5268	5079	2793	6929	4573	3574	4183	1266	6375	3123	5268	5268	8615	4573	1434								
6375	7832	4183	1266	6929	5079	5079	3123	5268	2162	3123	8615	5465	5268	2162										

7173 - 3599 = ☐ → T

2842 - 1408 = ☐ → G

6963 - 1695 = ☐ → E

3827 - 1665 = ☐ → S

10219 - 4754 = ☐ → C

7628 - 1253 = ☐ → F

8896 - 1064 = ☐ → R

6922 - 4129 = ☐ → H

9784 - 4705 = ☐ → P

3886 - 2620 = ☐ → M

9329 - 2400 = ☐ → A

7118 - 2545 = ☐ → N

9083 - 468 = ☐ → I

8792 - 4609 = ☐ → O

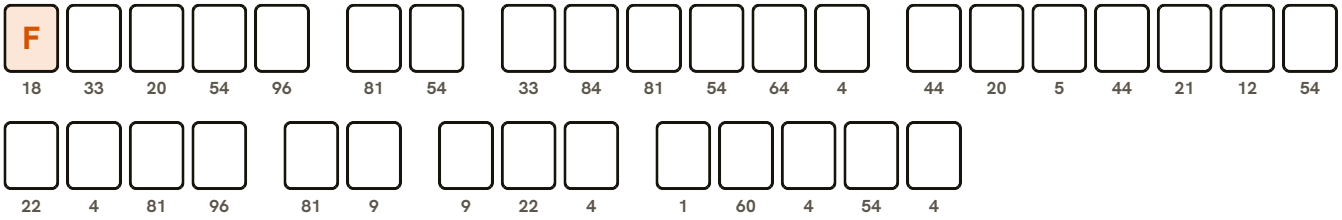
3887 - 764 = ☐ → L

Scratch space:

CLUE 4 Multiplication facts (1-12)

The corn maze is built in neat equal rows of spooky scarecrows. Multiply the rows to reveal another clue.

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



2 × 9 = ☐ → F

2 × 2 = ☐ → E

7 × 12 = ☐ → R

12 × 8 = ☐ → D

8 × 8 = ☐ → G

9 × 1 = ☐ → T

9 × 9 = ☐ → A

5 × 12 = ☐ → C

11 × 4 = ☐ → P

1 × 5 = ☐ → M

7 × 3 = ☐ → K

1 × 1 = ☐ → S

10 × 2 = ☐ → U

3 × 11 = ☐ → O

9 × 6 = ☐ → N

6 × 2 = ☐ → I

11 × 2 = ☐ → H

Scratch space:

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

> A bucket of trick-or-treat treats needs to be split evenly among the night patrol. Divide the treats to get the final clue.

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:

110 ÷ 10 = ☐ | 56 ÷ 8 = ☐ | 12 ÷ 1 = ☐ | 50 ÷ 10 = ☐ | 1 ÷ 1 = ☐

9 ÷ 1 = ☐ | 8 ÷ 2 = ☐ | 96 ÷ 12 = ☐ | 4 ÷ 2 = ☐ | 18 ÷ 6 = ☐

70 ÷ 7 = ☐

Step 2 - cross out the sentence with each answer:

1. The villain blasted heavy fog, then blared a fog horn.
2. The villain blasted heavy fog, then flew on a broom.
3. The villain activated a ghost glow, then blared a fog horn.
4. The villain activated a ghost glow, then rang a spooky bell.
5. The villain cast a bat swarm spell, then blared a fog horn.
6. The villain fired a pumpkin beam, then flew on a broom.
7. The villain fired a pumpkin beam, then waved a glow wand.
8. The villain fired a pumpkin beam, then dropped a candy bag.
9. The villain activated a ghost glow, then dropped a candy bag.
10. The villain blasted heavy fog, then rang a spooky bell.
11. The villain blasted heavy fog, then dropped a candy bag.
12. The villain cast a bat swarm spell, then flew on a broom.

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TEACHER / PARENT

Answer Key

The Pumpkin Patch Phantom

Culprit: Wendy Witch

Pumpkin Beam · Flying Broom · Taps Left Foot · Pumpkin Head · Apple Slices

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Place value): "THE PHANTOM DOES NOT CARRY A RINGING BELL"

What is the value of the 9 in 59,622? = 9000 (T) · What is the value of the 3 in 483,444? = 3000 (E) · What is the value of the 8 in 448,107? = 8000 (Y) · What is the value of the 1 in 32,128? = 100 (S) · What is the value of the 5 in 37,572? = 500 (B) · What is the value of the 6 in 335,610? = 600 (P) · What is the value of the 4 in 84,605? = 4000 (D) · What is the value of the 1 in 38,018? = 10 (H) · What is the value of the 1 in 521,496? = 1000 (M) · What is the value of the 8 in 504,865? = 800 (I) · What is the value of the 4 in 150,477? = 400 (A) · What is the value of the 4 in 830,949? = 40 (C) · What is the value of the 7 in 21,762? = 700 (O) · What is the value of the 6 in 26,984? = 6000 (N) · What is the value of the 2 in 40,925? = 20 (L) · What is the value of the 3 in 51,132? = 30 (G) · What is the value of the 3 in 565,399? = 300 (R)

Clue 2 (Addition): "WITNESS SAW FOOTPRINT OF TAPPING LEFT FOOT"

5402 + 3749 = 9151 (W) · 2644 + 2112 = 4756 (I) · 1540 + 910 = 2450 (A) · 3624 + 4935 = 8559 (F) · 5023 + 4849 = 9872 (L) · 1595 + 2773 = 4368 (S) · 4633 + 4068 = 8701 (O) · 3154 + 6732 = 9886 (G) · 1265 + 1491 = 2756 (P) · 1750 + 2069 = 3819 (E) · 3772 + 4349 = 8121 (R) · 5101 + 3507 = 8608 (T) · 2818 + 5182 = 8000 (N)

Clue 3 (Subtraction): "THE PHANTOM FLEEING FROM APPLE SLICES"

7173 - 3599 = 3574 (T) · 2842 - 1408 = 1434 (G) · 6963 - 1695 = 5268 (E) · 3827 - 1665 = 2162 (S) · 10219 - 4754 = 5465 (C) · 7628 - 1253 = 6375 (F) · 8896 - 1064 = 7832 (R) · 6922 - 4129 = 2793 (H) · 9784 - 4705 = 5079 (P) · 3886 - 2620 = 1266 (M) · 9329 - 2400 = 6929 (A) · 7118 - 2545 = 4573 (N) · 9083 - 468 = 8615 (I) · 8792 - 4609 = 4183 (O) · 3887 - 764 = 3123 (L)

Clue 4 (Multiplication facts (1-12)): "FOUND AN ORANGE PUMPKIN HEAD AT THE SCENE"

2 × 9 = 18 (F) · 2 × 2 = 4 (E) · 7 × 12 = 84 (R) · 12 × 8 = 96 (D) · 8 × 8 = 64 (G) · 9 × 1 = 9 (T) · 9 × 9 = 81 (A) · 5 × 12 = 60 (C) · 11 × 4 = 44 (P) · 1 × 5 = 5 (M) · 7 × 3 = 21 (K) · 1 × 1 = 1 (S) · 10 × 2 = 20 (U) · 3 × 11 = 33 (O) · 9 × 6 = 54 (N) · 6 × 2 = 12 (I) · 11 × 2 = 22 (H)

Clue 5 (Division facts (1-12)): surviving statement is box 6 → Wendy Witch

110 ÷ 10 = 11 · 56 ÷ 8 = 7 · 12 ÷ 1 = 12 · 50 ÷ 10 = 5 · 1 ÷ 1 = 1 · 9 ÷ 1 = 9 · 8 ÷ 2 = 4 · 96 ÷ 12 = 8 · 4 ÷ 2 = 2 · 18 ÷ 6 = 3 · 70 ÷ 7 = 10