



The Shadow Mystery of Oakhaven

Grade 5 math · Multiplication, Fractions of a number, Order of operations, Rounding, Missing addends · Reading level grades 3-4

Detective: _____ Date: _____

A strange creature called the Mind Shadow has invaded the town of Oakhaven! Use your math skills and clues to uncover who is secretly controlling it before the portal opens completely.

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 Mind Shadow is _____

Possible suspects

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

NAME	PSIONIC POWER	SURVIVAL GEAR	DOMINANT HAND	HAIR STYLE	SECRET WEAKNESS
Murray	Shadow Walk	Walkie Talkie	Right Handed	Wavy Blonde	Loud Music
Robin	Sonic Scream	Walkie Talkie	Right Handed	Wavy Blonde	Loud Music
Maxie	Static Beam	Roller Skates	Left Handed	Wavy Blonde	Cold Ice
Argyle	Static Beam	Flashlight	Right Handed	Wavy Blonde	Loud Music
Eddie	Sonic Scream	Roller Skates	Left Handed	Wavy Blonde	Loud Music
Mike	Telekinesis	Compass	Right Handed	Curly Brown	Bright Lights
Holly	Shadow Walk	Slingshot	Right Handed	Wavy Blonde	Loud Music
Chrissy	Sonic Scream	Flashlight	Left Handed	Spiky Black	Loud Music
Steve	Static Beam	Compass	Right Handed	Curly Brown	Loud Music
Bob	Static Beam	Walkie Talkie	Right Handed	Curly Brown	Loud Music
Will	Mind Blast	Walkie Talkie	Right Handed	Wavy Blonde	Cold Ice
Dustin	Mind Blast	Compass	Right Handed	Wavy Blonde	Loud Music
Erica	Telekinesis	Slingshot	Left Handed	Wavy Blonde	Loud Music
Jonathan	Shadow Walk	Flashlight	Left Handed	Wavy Blonde	Cold Ice
Vickie	Mind Blast	Flashlight	Left Handed	Wavy Blonde	Bright Lights
Owens	Mind Blast	Compass	Right Handed	Wavy Blonde	Bright Lights
Barb	Shadow Walk	Walkie Talkie	Right Handed	Wavy Blonde	Cold Ice
Joyce	Mind Blast	Roller Skates	Left Handed	Wavy Blonde	Bright Lights
Eleven	Shadow Walk	Flashlight	Left Handed	Wavy Blonde	Loud Music
Karen	Shadow Walk	Walkie Talkie	Left Handed	Wavy Blonde	Bright Lights
Nancy	Telekinesis	Slingshot	Right Handed	Wavy Blonde	Bright Lights

CLUE 1

Multiplication facts (1-12)

The kids counted rows of glowing waffles hidden inside the arcade supply box.

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

T																T
84	15	20	55	108	18	18	81	108	50	63	35	20	80	50	35	84
12	80	20	81	77	35	64	8	81	80	80						

$7 \times 12 = \square \rightarrow \boxed{\text{T}}$

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

$9 \times 9 = \square \rightarrow \boxed{\text{A}}$

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

$5 \times 7 = \square \rightarrow \boxed{\text{O}}$

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

$9 \times 12 = \square \rightarrow \boxed{\text{I}}$

$3 \times 4 = \square \rightarrow \boxed{\text{U}}$

$7 \times 9 = \square \rightarrow \boxed{\text{D}}$

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

$8 \times 1 = \square \rightarrow \boxed{\text{P}}$

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

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

$5 \times 11 = \square \rightarrow \boxed{\text{V}}$

$5 \times 3 = \square \rightarrow \boxed{\text{H}}$

Scratch space:

CLUE 2
Fractions of a number

The club calculated what fraction of the town walkie talkies were still picking up signals.

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

T									T					T				
26	19	14	2	8	2	28	14	16	26	8	2	14	35	26	19	14	23	39

				T				
39	23	7	19	26	19	22	17	35

$2/5 \text{ of } 65 = \square \rightarrow \text{ T }$

$1/3 \text{ of } 66 = \square \rightarrow \text{ A }$

$6/10 \text{ of } 65 = \square \rightarrow \text{ R }$

$2/10 \text{ of } 10 = \square \rightarrow \text{ S }$

$1/2 \text{ of } 28 = \square \rightarrow \text{ E }$

$2/6 \text{ of } 51 = \square \rightarrow \text{ N }$

$1/3 \text{ of } 57 = \square \rightarrow \text{ H }$

$2/3 \text{ of } 42 = \square \rightarrow \text{ P }$

$2/6 \text{ of } 105 = \square \rightarrow \text{ D }$

$7/8 \text{ of } 8 = \square \rightarrow \text{ G }$

$1/5 \text{ of } 115 = \square \rightarrow \text{ I }$

$1/3 \text{ of } 24 = \square \rightarrow \text{ U }$

$4/6 \text{ of } 24 = \square \rightarrow \text{ C }$

Scratch space:

CLUE 3
Order of operations

To unlock the lab computer the team followed the multistep security code on the monitor.

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

T														T						
58	50	31	15	29	20	20	10	29	13	7	10	14	14	58	32	37	37	31	51	

23	61	20	32	48	51	12	48	14	29	30

$12 \times 6 - 14 = \square \rightarrow \text{[T]}$

$7 \times 11 - 16 = \square \rightarrow \text{[Y]}$

$10 + 2 \times 2 = \square \rightarrow \text{[S]}$

$3 \times 9 - 4 = \square \rightarrow \text{[B]}$

$5 \times 6 - 15 = \square \rightarrow \text{[V]}$

$10 \times 4 - 11 = \square \rightarrow \text{[I]}$

$1 + 3 \times 4 = \square \rightarrow \text{[N]}$

$9 \times 6 - 22 = \square \rightarrow \text{[O]}$

$45 + 3 \times 2 = \square \rightarrow \text{[D]}$

$9 \times 3 - 15 = \square \rightarrow \text{[M]}$

$7 + 3 \times 8 = \square \rightarrow \text{[E]}$

$3 \times 11 - 26 = \square \rightarrow \text{[W]}$

$36 + 7 \times 2 = \square \rightarrow \text{[H]}$

$2 + 2 \times 9 = \square \rightarrow \text{[L]}$

$6 \times 10 - 30 = \square \rightarrow \text{[C]}$

$11 \times 5 - 7 = \square \rightarrow \text{[U]}$

$19 + 9 \times 2 = \square \rightarrow \text{[P]}$

$4 \times 7 - 18 = \square \rightarrow \text{[A]}$

Scratch space:

CLUE 4 Rounding

The digital signal reader at the radio tower only showed rounded energy levels.

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

W														W		
70	3000	2900	430	200	700	170	9000	1700	370	2300	3000	5000	300	70	3000	2000
2000	130	50	500	4300	170	9000	130	2300	370	1700	170	170	300			

Round 68 to the nearest ten → **W**

Round 245 to the nearest hundred → **B**

Round 172 to the nearest ten → **O**

Round 680 to the nearest hundred → **L**

Round 2,931 to the nearest hundred → **V**

Round 50 to the nearest ten → **U**

Round 8,599 to the nearest thousand → **N**

Round 2,335 to the nearest hundred → **H**

Round 302 to the nearest hundred → **R**

Round 1,718 to the nearest hundred → **D**

Round 4,272 to the nearest hundred → **K**

Round 433 to the nearest ten → **Y**

Round 3,245 to the nearest thousand → **A**

Round 4,769 to the nearest thousand → **I**

Round 2,140 to the nearest thousand → **S**

Round 130 to the nearest ten → **T**

Round 368 to the nearest ten → **E**

Round 502 to the nearest hundred → **C**

Scratch space:

CLUE 5**Missing addends - the last clue**

The detective checked the total battery count to see how many packs were missing from the shed.

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:

$1 + \underline{\quad} = 12$

$19 + \underline{\quad} = 21$

$6 + \underline{\quad} = 15$

$14 + \underline{\quad} = 19$

$22 + \underline{\quad} = 34$

$25 + \underline{\quad} = 35$

$37 + \underline{\quad} = 45$

$10 + \underline{\quad} = 16$

$14 + \underline{\quad} = 18$

$25 + \underline{\quad} = 26$

$23 + \underline{\quad} = 30$

Step 2 - cross out the sentence with each answer:

1. The villain blasted a shockwave, then fired a pebble with a slingshot.
2. The villain stepped into the shadows, then fired a pebble with a slingshot.
3. The villain zapped the power grid, then flashed a beam with a flashlight.
4. The villain let out a loud roar, then fired a pebble with a slingshot.
5. The villain blasted a shockwave, then called for backup on a walkie talkie.
6. The villain threw a vending machine, then called for backup on a walkie talkie.
7. The villain zapped the power grid, then called for backup on a walkie talkie.
8. The villain zapped the power grid, then zoomed away on fast roller skates.
9. The villain stepped into the shadows, then called for backup on a walkie talkie.
10. The villain threw a vending machine, then fired a pebble with a slingshot.
11. The villain let out a loud roar, then called for backup on a walkie talkie.
12. The villain blasted a shockwave, then checked the spinning needle on a compass.

Answer Key

The Shadow Mystery of Oakhaven

Culprit: Argyle

Static Beam · Flashlight · Right Handed · Wavy Blonde · Loud Music

Trail: Start 21 → Clue 1 17 → Clue 2 8 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Multiplication facts (1-12)): "THE VILLAIN DOES NOT USE A COMPASS"

$7 \times 12 = 84$ (T) · $3 \times 6 = 18$ (L) · $9 \times 9 = 81$ (A) · $8 \times 10 = 80$ (S) · $5 \times 7 = 35$ (O) · $10 \times 5 = 50$ (N) · $9 \times 12 = 108$ (I) · $3 \times 4 = 12$ (U) · $7 \times 9 = 63$ (D) · $11 \times 7 = 77$ (C) · $8 \times 1 = 8$ (P) · $2 \times 10 = 20$ (E) · $8 \times 8 = 64$ (M) · $5 \times 11 = 55$ (V) · $5 \times 3 = 15$ (H)

Clue 2 (Fractions of a number): "THE SUSPECT USED THEIR RIGHT HAND"

$\frac{2}{5}$ of 65 = 26 (T) · $\frac{1}{3}$ of 66 = 22 (A) · $\frac{6}{10}$ of 65 = 39 (R) · $\frac{2}{10}$ of 10 = 2 (S) · $\frac{1}{2}$ of 28 = 14 (E) · $\frac{2}{6}$ of 51 = 17 (N) · $\frac{1}{3}$ of 57 = 19 (H) · $\frac{2}{3}$ of 42 = 28 (P) · $\frac{2}{6}$ of 105 = 35 (D) · $\frac{7}{8}$ of 8 = 7 (G) · $\frac{1}{5}$ of 115 = 23 (I) · $\frac{1}{3}$ of 24 = 8 (U) · $\frac{4}{6}$ of 24 = 16 (C)

Clue 3 (Order of operations): "THE VILLAIN WAS STOPPED BY LOUD MUSIC"

$12 \times 6 - 14 = 58$ (T) · $7 \times 11 - 16 = 61$ (Y) · $10 + 2 \times 2 = 14$ (S) · $3 \times 9 - 4 = 23$ (B) · $5 \times 6 - 15 = 15$ (V) · $10 \times 4 - 11 = 29$ (I) · $1 + 3 \times 4 = 13$ (N) · $9 \times 6 - 22 = 32$ (O) · $45 + 3 \times 2 = 51$ (D) · $9 \times 3 - 15 = 12$ (M) · $7 + 3 \times 8 = 31$ (E) · $3 \times 11 - 26 = 7$ (W) · $36 + 7 \times 2 = 50$ (H) · $2 + 2 \times 9 = 20$ (L) · $6 \times 10 - 30 = 30$ (C) · $11 \times 5 - 7 = 48$ (U) · $19 + 9 \times 2 = 37$ (P) · $4 \times 7 - 18 = 10$ (A)

Clue 4 (Rounding): "WAVY BLONDE HAIR WAS STUCK ON THE DOOR"

Round 68 to the nearest ten = 70 (W) · Round 245 to the nearest hundred = 200 (B) · Round 172 to the nearest ten = 170 (O) · Round 680 to the nearest hundred = 700 (L) · Round 2,931 to the nearest hundred = 2900 (V) · Round 50 to the nearest ten = 50 (U) · Round 8,599 to the nearest thousand = 9000 (N) · Round 2,335 to the nearest hundred = 2300 (H) · Round 302 to the nearest hundred = 300 (R) · Round 1,718 to the nearest hundred = 1700 (D) · Round 4,272 to the nearest hundred = 4300 (K) · Round 433 to the nearest ten = 430 (Y) · Round 3,245 to the nearest thousand = 3000 (A) · Round 4,769 to the nearest thousand = 5000 (I) · Round 2,140 to the nearest thousand = 2000 (S) · Round 130 to the nearest ten = 130 (T) · Round 368 to the nearest ten = 370 (E) · Round 502 to the nearest hundred = 500 (C)

Clue 5 (Missing addends): surviving statement is box 3 → Argyle

$1 + \underline{\quad} = 12$ = 11 · $19 + \underline{\quad} = 21$ = 2 · $6 + \underline{\quad} = 15$ = 9 · $14 + \underline{\quad} = 19$ = 5 · $22 + \underline{\quad} = 34$ = 12 · $25 + \underline{\quad} = 35$ = 10 · $37 + \underline{\quad} = 45$ = 8 · $10 + \underline{\quad} = 16$ = 6 · $14 + \underline{\quad} = 18$ = 4 · $25 + \underline{\quad} = 26$ = 1 · $23 + \underline{\quad} = 30$ = 7