



The Rebellion Against the Math-Pocalypse

Grade 1 math · Addition, Subtraction, Place value, Multiplication, Division · Reading level grades 7-9

Detective: _____ **Date:** _____

The annual Math Is Fun Week is already a total drag, but someone took it way too far. They activated the school's old robotic mascot, Matheus the Math-Bot, who has locked up the dodgeballs behind tedious algebra puzzles. Every kid in school agrees that these forced math mysteries suck so much. We need to find out who unleashed the robot so we can turn off the calculators, bypass these awful worksheets, and save recess before lunch ends.

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 Math Mascot Saboteur is _____

Possible suspects

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

NAME	FAVORITE CHEAT SHEET	ANNOYING CATCHPHRASE	DOMINANT WRITING HAND	HAIR COLOR DYE	BOREDOM BUSTER
Mason	Abacus Ring	No Calculators	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Zoe	Abacus Ring	Solve For X	Left-Handed Pencil Grip	Inky Blue Hair	Doodle Break
Logan	Algebraic Decoder	Solve For X	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Mia	Fraction Finder	Show Your Work	Left-Handed Pencil Grip	Neon Highlighter Pink Hair	Sarcastic Sigh
Sarah	Slide Rule Ruler	Carrying The One	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Ethan	Abacus Ring	Decimal Pointless	Left-Handed Pencil Grip	Neon Highlighter Pink Hair	Sarcastic Sigh
Tyler	Abacus Ring	Show Your Work	Left-Handed Pencil Grip	Pencil Wood Brown Hair	Doodle Break
Caleb	Algebraic Decoder	Decimal Pointless	Left-Handed Pencil Grip	Neon Highlighter Pink Hair	Sarcastic Sigh
Olivia	Slide Rule Ruler	Solve For X	Right-Handed Pencil Grip	Pencil Wood Brown Hair	Doodle Break
Grace	Graph Paper Map	Decimal Pointless	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Wyatt	Slide Rule Ruler	Solve For X	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Paper Airplane Distraction
Emma	Graph Paper Map	No Calculators	Left-Handed Pencil Grip	Inky Blue Hair	Paper Airplane Distraction
Ella	Slide Rule Ruler	Solve For X	Left-Handed Pencil Grip	Inky Blue Hair	Doodle Break
Zach	Graph Paper Map	Show Your Work	Left-Handed Pencil Grip	Pencil Wood Brown Hair	Sarcastic Sigh
Ryan	Slide Rule Ruler	Show Your Work	Left-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Maya	Fraction Finder	No Calculators	Right-Handed Pencil Grip	Inky Blue Hair	Doodle Break
Chloe	Slide Rule Ruler	Carrying The One	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Sarcastic Sigh
Devon	Slide Rule Ruler	Solve For X	Right-Handed Pencil Grip	Inky Blue Hair	Paper Airplane Distraction
Jackson	Algebraic Decoder	Solve For X	Left-Handed Pencil Grip	Pencil Wood Brown Hair	Paper Airplane Distraction
Avery	Graph Paper Map	Show Your Work	Right-Handed Pencil Grip	Neon Highlighter Pink Hair	Doodle Break
Lily	Abacus Ring	Carrying The One	Left-Handed Pencil Grip	Neon Highlighter Pink Hair	Sarcastic Sigh

CLUE 1

The culprit forced us to count every single dry-erase marker in the supply closet. We tallied up the blue ones and the red ones to find the total, revealing a scrap of paper that clears one suspect.

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

The diagram illustrates the step-by-step construction of a Huffman tree. It consists of two rows of boxes, each representing a node in the tree. The top row shows the initial merging of leaf nodes with weights 6, 3, 17, 5, 14, 20, 8, 18, 16, 6, 20, 17, 6, 19, 14, 19, 14, 19, 17. The bottom row shows the intermediate steps of merging, with the final tree structure being a single root node. The 'T' in the boxes indicates the tree structure.

$1 + 5 = \boxed{} \rightarrow \boxed{\text{T}}$

$12 + 5 = \square \rightarrow \boxed{\text{E}}$

$2 + 1 = \square \rightarrow \boxed{\text{H}}$

$5 + 5 = \square \rightarrow \boxed{\text{A}}$

$6 + 13 = \boxed{} \rightarrow \boxed{\text{S}}$

$12 + 6 = \boxed{} \rightarrow \boxed{\text{R}}$

$3 + 9 = \boxed{} \rightarrow \boxed{0}$

$4 + 12 = \boxed{} \rightarrow \boxed{\text{I}}$

$9 + 5 = \boxed{} \rightarrow \boxed{\text{U}}$

$4 + 1 = \boxed{} \rightarrow \boxed{\text{C}}$

$$5 + 3 = \boxed{} \rightarrow \boxed{\text{P}}$$

$14 + 6 = \boxed{} \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 2 Subtraction

To unlock the gym doors, we had to subtract the number of stolen kickballs from the school's total inventory. The difference gave us the combination, letting us see which gear was left behind.

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

A							A										
2	14	1	13	11	6	11	2	7	8	4	8	13	14	1	19	3	7

					A				A								
6	11	4	5	11	2	9	12	17	2	18	18	4	4	7			

$11 - 9 = \square \rightarrow$ A	$12 - 4 = \square \rightarrow$ D	$16 - 2 = \square \rightarrow$ R	
$12 - 8 = \square \rightarrow$ E	$14 - 7 = \square \rightarrow$ N	$2 - 1 = \square \rightarrow$ I	$16 - 3 = \square \rightarrow$ G
$20 - 1 = \square \rightarrow$ P	$13 - 8 = \square \rightarrow$ C	$11 - 5 = \square \rightarrow$ T	
$20 - 2 = \square \rightarrow$ S	$17 - 6 = \square \rightarrow$ H	$18 - 1 = \square \rightarrow$ W	
$14 - 2 = \square \rightarrow$ K	$7 - 4 = \square \rightarrow$ O	$13 - 4 = \square \rightarrow$ L	

Scratch space:

CLUE 3 Place value

The villain locked the principal's computer using a code made of tens and ones. By figuring out which digit belongs in the tens place, we bypassed the lock and found an analysis of the culprit's handwriting.

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

T									T						T
39	50	30	78	54	67	45	17	56	39	18	30	66	90	66	39
	T							T							
66	39	67	19	19	90	47	87	39	67	56	67	67	56	17	30

What number has 3 tens and 9 ones? → T

What number has 7 tens and 8 ones? → Y

What number has 5 tens and 0 ones? → H

What number has 5 tens and 6 ones? → D

What number has 3 tens and 0 ones? → E

What number has 6 tens and 7 ones? → O

What number has 5 tens and 4 ones? → C

What number has 9 tens and 0 ones? → I

What number has 1 ten and 9 ones? → P

What number has 6 tens and 6 ones? → S

What number has 8 tens and 7 ones? → G

What number has 4 tens and 7 ones? → N

What number has 1 ten and 7 ones? → L

What number has 4 tens and 5 ones? → U

What number has 1 ten and 8 ones? → R

Scratch space:

Multiplication facts (1-12)

We found a grid of desk chairs arranged in perfect, boring rows. Multiplying the rows by the columns gave us the total chairs, which pointed us to a locker containing a hair sample.

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

The diagram illustrates a Huffman tree structure with three rows of boxes. The first row contains 13 boxes with values: 8, 48, 64, 63, 64, 3, 1, 30, 22, 15, 12, 35. The second row contains 17 boxes with values: 48, 15, 72, 48, 2, 15, 72, 48, 8, 64, 63, 48, 1, 15, 63, 2, 64, 90, 8. The third row contains 6 boxes with values: 18, 64, 48, 15, 12, 6. The boxes are arranged in a way that suggests a binary tree structure, with some boxes highlighted in orange.

$8 \times 1 = \boxed{} \rightarrow \boxed{\text{T}}$

$$5 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{S}}$$

$$2 \times 6 = \boxed{} \rightarrow \boxed{\mathbf{N}}$$

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

$1 \times 1 = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$3 \times 5 = \boxed{} \rightarrow \boxed{}$

$8 \times 8 = \boxed{} \rightarrow \boxed{\text{E}}$

$$2 \times 1 = \boxed{} \rightarrow \boxed{\text{L}}$$

$10 \times 9 = \boxed{} \rightarrow \boxed{\text{F}}$

$2 \times 11 = \boxed{} \rightarrow \boxed{}$

$2 \times 3 = \boxed{} \rightarrow \boxed{}$

$12 \times 6 = \square \rightarrow \mathbf{G}$

$3 \times 1 = \square \rightarrow \text{W}$

$6 \times 8 = \square \rightarrow \mathbf{H}$

$3 \times 6 = \square \rightarrow \mathbf{B}$

$5 \times 7 = \square \rightarrow \mathbf{K}$

Scratch space:

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

A stack of tedious homework sheets had to be divided equally among the five remaining suspects. The leftover remainder pinpointed the exact culprit's favorite distraction.

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:

$9 \div 9 = \boxed{}$

$32 \div 4 = \boxed{}$

$24 \div 4 = \boxed{}$

$22 \div 2 = \boxed{}$

$45 \div 5 = \boxed{}$

$9 \div 3 = \boxed{}$

$30 \div 3 = \boxed{}$

$12 \div 3 = \boxed{}$

$21 \div 3 = \boxed{}$

$120 \div 10 = \boxed{}$

$30 \div 6 = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain hacks the playground gate lock, then laughing in long division.
2. The villain covers the basketball court in equations, then shouting an awful math pun.
3. The villain confiscates the dodgeballs, then shouting an awful math pun.
4. The villain covers the basketball court in equations, then demanding we solve for y.
5. The villain jams the slide with worksheets, then shouting an awful math pun.
6. The villain covers the basketball court in equations, then forbidding any recess fun.
7. The villain jams the slide with worksheets, then forbidding any recess fun.
8. The villain shuts down the swing set, then demanding we solve for y.
9. The villain shuts down the swing set, then laughing in long division.
10. The villain covers the basketball court in equations, then laughing in long division.
11. The villain hacks the playground gate lock, then demanding we solve for y.
12. The villain hacks the playground gate lock, then forbidding any recess fun.

Answer Key

The Rebellion Against the Math-Pocalypse

Culprit: Avery

Graph Paper Map · Show Your Work · Right-Handed Pencil Grip · Neon Highlighter Pink Hair · Doodle Break

Trail: Start 21 → Clue 1 18 → Clue 2 8 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Addition): "THE CULPRIT LETS US USE CALCULATORS"

$1 + 5 = 6$ (T) · $12 + 5 = 17$ (E) · $2 + 1 = 3$ (H) · $5 + 5 = 10$ (A) · $6 + 13 = 19$ (S) · $12 + 6 = 18$ (R) · $3 + 9 = 12$ (O) · $4 + 12 = 16$ (I) · $9 + 5 = 14$ (U) · $4 + 1 = 5$ (C) · $5 + 3 = 8$ (P) · $14 + 6 = 20$ (L)

Clue 2 (Subtraction): "A RIGHT HANDED GRIP ON THE CHALK WAS SEEN"

$11 - 9 = 2$ (A) · $12 - 4 = 8$ (D) · $16 - 2 = 14$ (R) · $12 - 8 = 4$ (E) · $14 - 7 = 7$ (N) · $2 - 1 = 1$ (I) · $16 - 3 = 13$ (G) · $20 - 1 = 19$ (P) · $13 - 8 = 5$ (C) · $11 - 5 = 6$ (T) · $20 - 2 = 18$ (S) · $17 - 6 = 11$ (H) · $18 - 1 = 17$ (W) · $14 - 2 = 12$ (K) · $7 - 4 = 3$ (O) · $13 - 4 = 9$ (L)

Clue 3 (Place value): "THEY COULDT RESIST STOPPING TO DOODLE"

What number has 3 tens and 9 ones? = 39 (T) · What number has 7 tens and 8 ones? = 78 (Y) · What number has 5 tens and 0 ones? = 50 (H) · What number has 5 tens and 6 ones? = 56 (D) · What number has 3 tens and 0 ones? = 30 (E) · What number has 6 tens and 7 ones? = 67 (O) · What number has 5 tens and 4 ones? = 54 (C) · What number has 9 tens and 0 ones? = 90 (I) · What number has 1 ten and 9 ones? = 19 (P) · What number has 6 tens and 6 ones? = 66 (S) · What number has 8 tens and 7 ones? = 87 (G) · What number has 4 tens and 7 ones? = 47 (N) · What number has 1 ten and 7 ones? = 17 (L) · What number has 4 tens and 5 ones? = 45 (U) · What number has 1 ten and 8 ones? = 18 (R)

Clue 4 (Multiplication facts (1-12)): "THERE WAS PINK HIGHLIGHTER HAIR LEFT BEHIND"

$8 \times 1 = 8$ (T) · $5 \times 6 = 30$ (S) · $2 \times 6 = 12$ (N) · $9 \times 7 = 63$ (R) · $1 \times 1 = 1$ (A) · $3 \times 5 = 15$ (I) · $8 \times 8 = 64$ (E) · $2 \times 1 = 2$ (L) · $10 \times 9 = 90$ (F) · $2 \times 11 = 22$ (P) · $2 \times 3 = 6$ (D) · $12 \times 6 = 72$ (G) · $3 \times 1 = 3$ (W) · $6 \times 8 = 48$ (H) · $3 \times 6 = 18$ (B) · $5 \times 7 = 35$ (K)

Clue 5 (Division facts (1-12)): surviving statement is box 2 → Avery

$9 \div 9 = 1$ · $32 \div 4 = 8$ · $24 \div 4 = 6$ · $22 \div 2 = 11$ · $45 \div 5 = 9$ · $9 \div 3 = 3$ · $30 \div 3 = 10$ · $12 \div 3 = 4$ · $21 \div 3 = 7$ · $120 \div 10 = 12$ · $30 \div 6 = 5$