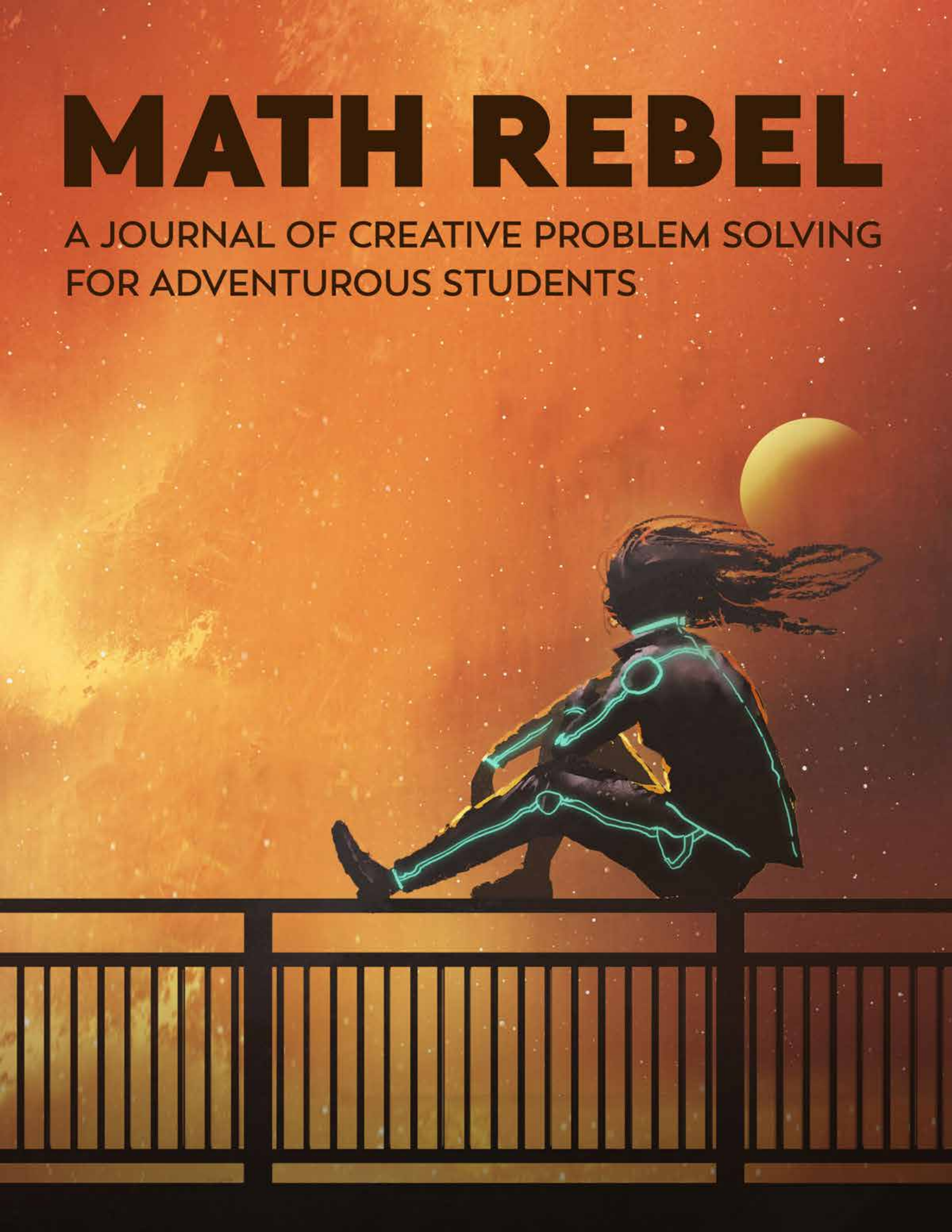
MATH REBEL

A JOURNAL OF CREATIVE PROBLEM SOLVING FOR ADVENTUROUS STUDENTS



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A JOURNAL OF CREATIVE PROBLEM SOLVING FOR ADVENTUROUS STUDENTS

This book belongs to:

_____

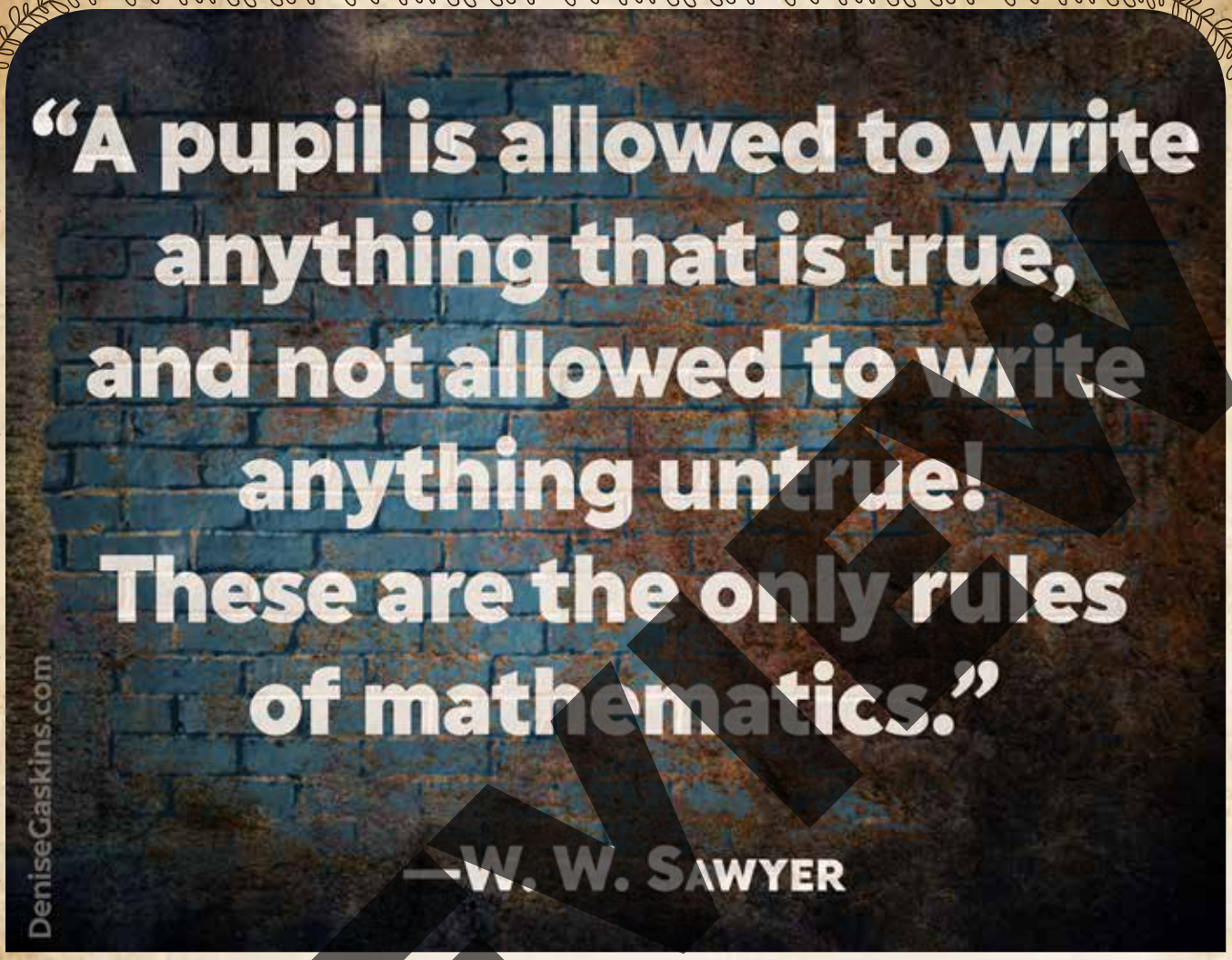
Year:

_____

Take your stand against boring, routine homework.
Fight for truth, justice, and the unexpected answer.

Contents

CREDITS: Cover image by grandfailure, Depositphotos. "Two Math Rules" W. W. Sawyer quote from *Vision in Elementary Mathematics,* Dover Publications, 2003.



What Is a Math Rebel?

We study math so we can grow in our ability to understand and solve problems:

- We want to think creatively about mathematics.
- To seek out both the "how" and the "why" of procedures.
- To be fluent and flexible in applying math skills.
- To never believe something just because the book says so.
- To have confidence in our own ability to figure things out.

This is what it means to be a math rebel.

Problem Solving Tip #3

KNOW HOW TO ARGUE

Argue respectfully.
Analyze situations.
Recognize your own assumptions.
Be careful with definitions.
Make a guess, then test to see if it's true.
Explain your thoughts.
Give evidence for your conclusions.
Listen to other people.
Ask questions.
Celebrate when someone points out your mistakes.
That's when you learn!

Stretch to Stay Nimble

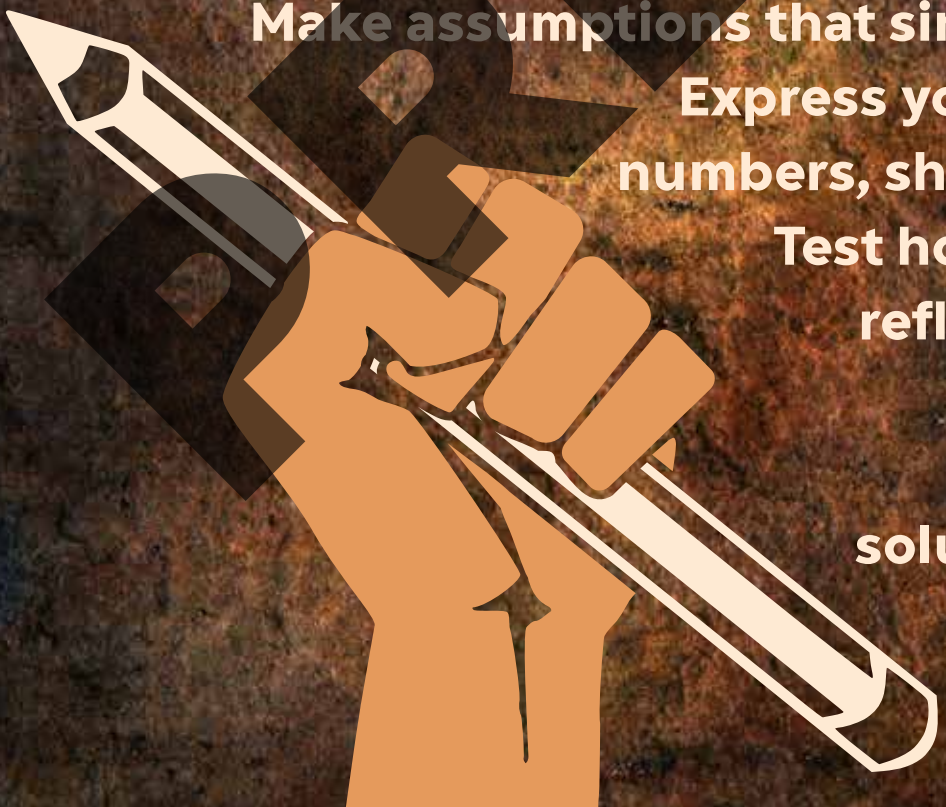
Math Rebels are flexible. Using the digits 1, 2, 3, and 4, how many different numbers can you make? For example: 0 = (1 + 2 − 3) × 4.

You may use any math operation you know. You must have all four digits in each calculation.

Problem Solving Tip #4

LOOK BENEATH the SURFACE

Notice the math behind everyday life.
Examine a complex situation.
Ignore the parts that aren't relevant.
Pay attention to the big picture,
but don't lose track of the details.
Make assumptions that simplify the problem.
Express your thoughts using
numbers, shapes, or equations.
Test how well your model
reflects the real world.
Draw conclusions.
Explain how your
solution relates to the
original situation.



Mathematical Freewrite

Finish the prompt sentence. And then keep writing until you reach the end of the page. Don't overthink it, just write. Keep your pencil moving.

Sometimes when I'm working on a math problem, I _____