

Pennsylvania PSSA Grade 4 Math Puzzles and Brain Teasers

Fun Math Games, Activities & Challenges

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THINK • SOLVE • HAVE FUN



Grade 4 Math Puzzles & Brain Teasers



Math is more fun when it feels like a game!

This book is packed with puzzles, riddles, brain teasers, and math games that cover all of Grade 4 math. Crack codes, solve mysteries, break puzzles, and challenge your brain — all while learning math!



Solve Puzzles



Tease Your Brain



Have Fun!

“Some of these puzzles are tricky! If you get stuck, take a break and come back. Your brain keeps working even when you’re resting!”



How to Use This Book

Get to know the different puzzle types you'll find inside!

Code Breakers

Solve the math, then use the answers to crack a secret code or message!

Mystery Numbers

Follow the clues to figure out the mystery number. Think like a detective!

Number Grids

Fill in the missing numbers in a grid. Rows, columns, and patterns are your clues.

Logic Puzzles

Use reasoning and math to solve tricky logic problems. No guessing allowed!

Math Mazes

Navigate through a maze by solving problems correctly at each turn.

Riddles & Tricks

Math riddles that make you think differently. Can you figure it out?

Difficulty Levels



Warm-Up — Get started with something fun!



Brain Workout — A solid challenge for your brain.



Genius Level — Only the bravest puzzlers dare try!

 **Answers** are in the **Answer Key** at the back. Try your best before peeking!

Math Symbols & Words

Quick reference to help you solve puzzles!

Symbols You'll See

Symbol	Meaning	Symbol	Meaning
+	Add	=	Equals
−	Subtract	≠	Not equal to
×	Multiply	<	Less than
÷	Divide	>	Greater than
≤	Less than or equal	≥	Greater than or equal
∠	Angle		Parallel
⊥	Perpendicular	≈	About equal to

Key Math Words

- **Factor** — a number you multiply
- **Product** — multiply answer
- **Quotient** — divide answer
- **Remainder** — leftover after dividing
- **Sum** — add answer
- **Difference** — subtract answer
- **Numerator** — top of a fraction
- **Denominator** — bottom of a fraction
- **Equivalent** — equal in value
- **Decimal** — number with a decimal point
- **Prime** — only divisible by 1 and itself
- **Composite** — has more than 2 factors
- **Perimeter** — distance around a shape
- **Area** — space inside a shape
- **Symmetry** — same on both sides of a line
- **Degree** — unit for angles (°)



The Alligator Trick: The alligator's mouth always opens toward the bigger number. So $5 > 3$ means the mouth opens toward 5 (the bigger one).

PREVIEW



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PREVIEW

CHAPTER

1

Multiply, Divide, and Patterns

★ *What's Inside* ★

1.1 <i>Multiplication as a Comparison</i>	2
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★ 1.1 Multiplication as a Comparison ★

1.1 Multiplication Comparison Puzzles

🎯 Skills You'll Practice

- Interpret "times as many" as multiplication
- Write multiplication equations from comparison sentences
- Find missing numbers in comparison statements

🔍 Mystery Number! ?

Who Am I?



- 1 I am a number less than 50.
- 2 I am 6 times as many as 7.
- 3 If you subtract 2 from me, you get a number that ends in 0.

What number am I? _____

Write the comparison equation: _____



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✂ Equation Scramble!

Comparison Scramble!



The tiles below make a comparison sentence about the two groups of dots. Unscramble them into the correct order!

Group A: • • • (3 dots)

Group B: • • • • • • • • • • • • • • (12 dots)

is

12

as many as

4 times

3

Write the sentence in order: _____

Write the equation: _____

🔑 Crack the Code!

Crack the Comparison Code!



Solve each "times as many" problem. Match the answer to its letter and decode the secret word!

G 3 times as many as 8 = _____ = _____

R 5 times as many as 4 = _____ = _____

E 2 times as many as 9 = _____ = _____

A 7 times as many as 3 = _____ = _____

T 4 times as many as 6 = _____ = _____

Write the letters in order from **smallest answer** to **largest answer**:



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 **Secret Message:**







Brain Teaser!

The Comparison Chain!



Read each clue carefully. Each answer is used in the next clue!

1. Mia has 3 stickers. Leo has 4 times as many stickers as Mia. How many stickers does Leo have?

2. Zara has 3 times as many stickers as Leo. How many stickers does Zara have? _____

3. How many times as many stickers does Zara have compared to Mia? _____

 **Hint:** Multiply step by step — then compare Zara back to Mia!

 **Puzzle Master!** 

You solved them all!



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CHAPTER

2

Adding, Subtracting, Multiplying, and Dividing Whole Numbers

★ *What's Inside* ★

2.1 Add Whole Numbers	6
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★ 2.1 Add Whole Numbers ★

🧩 2.1 Addition Puzzles 🧩

🎯 Skills You'll Practice

- Add multi-digit whole numbers fluently
- Regroup (carry) when a column sums to 10 or more
- Use addition relationships to find missing numbers
- Solve multi-step addition problems with reasoning

🔍 Who Am I? ?



- 1 I am a three-digit number.
- 2 When you add 267 to me, you get 600.
- 3 All three of my digits are the same!
- 4 I am greater than 300.

What number am I? _____

Show the addition to check: _____ + 267 = 600



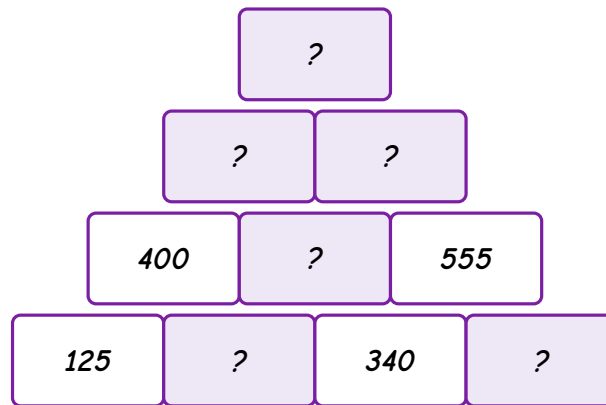
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Addition Pyramid



In this pyramid, each brick equals the **sum** of the two bricks directly below it. Fill in all the missing numbers!



 **Hint:** Start where you know both a brick and one neighbor below it. If $125 + ? = 400$, what is the missing number?

Crack the Code!

Crack the Addition Code!



Solve each addition problem. Then use the key to match each answer to a letter. Write the letters from **smallest answer** to **largest answer** to spell a secret word!

S $1,250 + 1,250 = \underline{\hspace{2cm}}$

T $1,678 + 1,322 = \underline{\hspace{2cm}}$

A $2,555 + 1,445 = \underline{\hspace{2cm}}$



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R $3,175 + 1,825 = \underline{\hspace{2cm}}$

Letter Key:

Answer	2,500	3,000	4,000	5,000
Letter	S	T	A	R

 **Secret Message:**



Brain Teaser!

The Missing Digits!



Each star (★) stands for a **missing digit** (0–9). Figure out what digit goes in each star to make the addition correct!

$$\begin{array}{r}
 \star 6 \star 4 \\
 + 2 \star 7 \star \\
 \hline
 5240
 \end{array}$$

1. The first ★ (thousands digit of the top number): _____
2. The second ★ (tens digit of the top number): _____
3. The third ★ (hundreds digit of the bottom number): _____
4. The fourth ★ (ones digit of the bottom number): _____



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You solved them all!

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- ✓ *Reference sheets and progress trackers*

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