

# Illinois IAR Grade 3 Math Workbook

*Practice Problems & Exercises with Answer Key*

**Dr. A. Nazari**

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Published by View Math Education

ViewMath.com

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LET'S PRACTICE!

# Grade 3 Math Workbook!



Hi there, math superstar! ★

This workbook is packed with **practice problems** to help you become a math champion! Each topic has a quick review, warm-up problems, lots of practice, and fun challenges.

- ✓ Practice makes you **stronger**!
- ✓ Take your time and **show your work**!
- ✓ Check your answers at the **back of the book**!

Grab a pencil and let's get started! 🚀

“ The more you practice, the better you get!  
I believe in you! ”



# How to Use This Workbook

*Follow these steps for every topic!*

## Step 1: Quick Review

Each topic starts with a **Quick Review** to remind you of the key ideas. Read it before you begin!

## Step 2: Warm-Up

Easy problems to get your brain ready. These are like stretching before a race!

## Step 3: Practice

The main workout! Lots of problems to build your skills. Take your time and show your work.

## Step 4: Challenge

Ready for something harder? These tricky problems will push your brain to the next level!

## Step 5: Check Your Answers

Turn to the **Answer Key** at the back of the book. Mark each problem right or wrong, and learn from mistakes!

### Tips for Students

- Do one topic at a time
- Show all your work
- Don't peek at answers first!
- Circle problems you find hard
- Come back to hard ones later

### Tips for Parents

- Let your child work independently
- Review mistakes together
- Praise effort, not just answers
- 15–20 minutes per session
- Use with the Study Guide!

✓ **Answers and explanations** for all practice problems are in the **Answer Key** at the back of the book!

PREVIEW



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# X<sup>1</sup> Math Reference Sheet X<sup>1</sup>

Use this page any time you need a quick reminder!

| Symbol        | Name             | What It Means                                               |                   |
|---------------|------------------|-------------------------------------------------------------|-------------------|
| +             | Plus (Add)       | Put numbers together.                                       | $3 + 5 = 8$       |
| -             | Minus (Subtract) | Take away from a number.                                    | $9 - 4 = 5$       |
| ×             | Times (Multiply) | Add equal groups.                                           | $4 \times 3 = 12$ |
| ÷             | Divide           | Split into equal groups.                                    | $12 \div 3 = 4$   |
| =             | Equals           | Both sides are the same.                                    | $2 + 3 = 5$       |
| >             | Greater Than     | The left number is bigger.                                  | $7 > 3$           |
| <             | Less Than        | The left number is smaller.                                 | $2 < 9$           |
| $\frac{1}{2}$ | Fraction Bar     | Part of a whole. $\frac{1}{2}$ means 1 out of 2 equal parts |                   |

## Key Math Words

- **Sum** — the answer when you add
- **Difference** — the answer when you subtract
- **Product** — the answer when you multiply
- **Quotient** — the answer when you divide
- **Factor** — a number you multiply
- **Digit** — a single number symbol (0–9)
- **Place Value** — what a digit is worth
- **Regroup** — trade 10 ones for 1 ten
- **Estimate** — a smart guess
- **Expanded Form** — showing each digit's value
- **Fraction** — a part of a whole
- **Equivalent** — equal in value
- **Perimeter** — distance around a shape
- **Area** — space inside a shape

 Place Value Chart

| <i>Thousands</i> | <i>Hundreds</i> | <i>Tens</i> | <i>Ones</i> |
|------------------|-----------------|-------------|-------------|
| 1,000            | 100             | 10          | 1           |



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CHAPTER

1

## *Number Sense & Place Value*

### ★ *What's Inside* ★

|                                                           |          |
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| <b>1.1</b> <i>Place Value: Ones, Tens, Hundreds</i> ..... | <b>2</b> |
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## ★ 1.1 Place Value: Ones, Tens, Hundreds ★

### Quick Review: Place Value

**Place value** tells us how much a digit is worth based on where it sits in a number.

- The **hundreds** place is on the left: it means groups of 100.
- The **tens** place is in the middle: it means groups of 10.
- The **ones** place is on the right: it means single units.

**Example:** In the number **527**: 5 hundreds = 500, 2 tens = 20, 7 ones = 7.

**Expanded form:**  $527 = 500 + 20 + 7$

### Warm-Up

#### Name the Place

What place is the underlined digit in? Write **hundreds**, **tens**, or **ones**.

1. 456 \_\_\_\_\_

4. 604 \_\_\_\_\_

2. 783 \_\_\_\_\_

5. 901 \_\_\_\_\_

3. 219 \_\_\_\_\_



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 *What Is the Value?* *Write the Value of the Underlined Digit*

6.  $\underline{5}$ 73 \_\_\_\_\_

9.  $\underline{8}$ 02 \_\_\_\_\_

7. 248 \_\_\_\_\_

10. 307 \_\_\_\_\_

8. 916 \_\_\_\_\_

11. 651 \_\_\_\_\_

*Write in Expanded Form*

12.  $483 =$  \_\_\_\_\_

13.  $615 =$  \_\_\_\_\_

14.  $907 =$  \_\_\_\_\_

15.  $350 =$  \_\_\_\_\_

 *Write the Standard Form* *Write the number in standard form (the normal way).*

16.  $200 + 40 + 5 =$  \_\_\_\_\_

18.  $500 + 0 + 2 =$  \_\_\_\_\_

17.  $700 + 10 + 8 =$  \_\_\_\_\_

19.  $100 + 90 + 9 =$  \_\_\_\_\_



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 True or False? 

20. In 572, the digit 7 has a value of 70.

True ☐ False ☐

21. In 843, the digit 8 is in the tens place.

True ☐ False ☐

22. The expanded form of 405 is  $400 + 0 + 5$ .

True ☐ False ☐

23.  $300 + 20 + 6 = 326$

True ☐ False ☐

  Word Problems 

24. A library has 573 books. What is the value of the digit 5 in 573?

Answer: \_\_\_\_\_

25. Maya collected 268 stickers. Write this number in expanded form.

Answer: \_\_\_\_\_

26. Jake says the number with 4 hundreds, 0 tens, and 9 ones is 49. Is Jake correct? Explain.

Answer: \_\_\_\_\_

 Challenge! 

27. I am a 3-digit number. My hundreds digit is double my ones digit. My tens digit is 5. My ones digit is 3. What number am I? \_\_\_\_\_

28. Using the digits 2, 7, and 4 (each used once), what is the **largest** 3-digit number you can make?

\_\_\_\_\_



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★ *Great job practicing place value! You  
are building strong number sense!* ★

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CHAPTER

2

## *Multiplication & Division*

### ★ *What's Inside* ★

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## ★ 2.1 Understanding Multiplication ★

### Quick Review: What Is Multiplication?

**Multiplication** is a fast way to add **equal groups**.

- $3 \times 4$  means “3 groups of 4.”
- The numbers you multiply are called **factors**.
- The answer is called the **product**.

**Example:**  $5 \times 2 = 10$  means 5 groups of 2:  $2 + 2 + 2 + 2 + 2 = 10$ .

You can show multiplication with **equal groups**, **arrays**, **repeated addition**, or **skip counting**.

### Warm-Up

#### Quick Multiply

1.  $2 \times 3 =$  \_\_\_\_\_

3.  $1 \times 7 =$  \_\_\_\_\_

5.  $5 \times 4 =$  \_\_\_\_\_

2.  $4 \times 2 =$  \_\_\_\_\_

4.  $3 \times 5 =$  \_\_\_\_\_

6.  $2 \times 6 =$  \_\_\_\_\_

### Write the Multiplication Sentence

#### Look at the Groups



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Write a multiplication sentence and the product for each.

7. 3 groups of 6  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

8. 5 groups of 3  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

9. 4 groups of 4  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

10. 2 groups of 9  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

11. 6 groups of 2  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

### Repeated Addition to Multiplication

#### Rewrite as Multiplication

Write each repeated addition as a multiplication sentence.

12.  $5 + 5 + 5 + 5 = \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$

13.  $3 + 3 + 3 + 3 + 3 = \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$

14.  $8 + 8 + 8 = \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$

15.  $6 + 6 = \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$

### Arrays

#### Write the Multiplication Sentence for Each Array

16. 3 rows with 4 in each row:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

17. 5 rows with 2 in each row:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

18. 2 rows with 8 in each row:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$



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19. 4 rows with 5 in each row:  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

### True or False?

20.  $4 \times 3$  means 4 groups of 3.

True ☐ False ☐

21.  $5 \times 2 = 2 \times 5$

True ☐ False ☐

22.  $3 + 3 + 3 + 3$  is the same as  $3 \times 4$ .

True ☐ False ☐

23. The product of  $6 \times 1$  is 6.

True ☐ False ☐

### Word Problems

24. A baker puts 6 cookies on each tray. He fills 3 trays. How many cookies are there in all?

Answer:  $\underline{\hspace{2cm}}$  cookies

25. There are 4 fish tanks. Each tank has 5 fish. How many fish are there altogether?

Answer:  $\underline{\hspace{2cm}}$  fish

26. Sam has 7 bags of marbles. Each bag has 2 marbles. How many marbles does Sam have?

Answer:  $\underline{\hspace{2cm}}$  marbles

### Challenge!

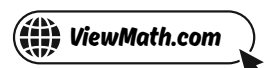
27. Draw two different arrays that each show a total of 12 objects. Write the multiplication sentence for each.



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Array 1: \_\_\_\_\_  $\times$  \_\_\_\_\_ = 12

Array 2: \_\_\_\_\_  $\times$  \_\_\_\_\_ = 12

28. A farmer plants flowers in 5 equal rows. He plants 40 flowers in all. How many flowers are in each row? \_\_\_\_\_

★ You understand what multiplication means — equal groups, arrays, and repeated addition! Keep it up! ★



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THANK YOU

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