

Illinois IAR Grade 4 Math Workbook

Practice Problems & Exercises with Answer Key

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PRACTICE MAKES PROGRESS

Your Grade 4 Math Workbook



The more you practice, the stronger you get!

This workbook is packed with practice problems for every Grade 4 math topic. Each section gives you plenty of room to work through problems, build confidence, and master new skills.



Build Strength



Check Answers



Feel Proud

“ Grab your pencil and let’s get started! Every problem you solve makes you a better mathematician. ”



How to Use This Workbook

This workbook is designed for practice. Here's what you'll find inside.

Quick Review

Each section starts with a short review of the key idea. Read it to refresh your memory before you practice.

Worked Example

A step-by-step example shows you exactly how to solve that type of problem. Study it carefully!

Practice Problems

Lots of problems to help you build skills. Start from the top and work your way down. If a problem feels hard, look back at the example.

Challenge Problems

Bonus problems at the end of some sections. These are harder — give them your best shot!

Watch Out!

Common mistakes to avoid. Read these carefully so you don't fall into traps!

Tips for success:



- Try every problem before checking the **Answer Key** at the back.
- Show your work! Writing out steps helps you learn.
- If you get stuck, re-read the Quick Review and Example.
- It's okay to make mistakes — that's how you learn!

Math Reference

Quick reference for symbols, words, and formulas you'll use in this workbook.

Math Symbols

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** — the answer when you multiply
- **Quotient** — the answer when you divide
- **Remainder** — what's left after dividing
- **Sum** — the answer when you add
- **Difference** — the answer when you subtract
- **Numerator** — top number of a fraction
- **Denominator** — bottom number of a fraction
- **Mixed number** — a whole number + fraction
- **Decimal** — a number with a decimal point
- **Angle** — a shape formed by two rays
- **Degree** (°) — unit for measuring angles
- **Perimeter** — distance around a shape
- **Area** — space inside a shape
- **Parallel** — lines that never meet
- **Perpendicular** — lines that meet at 90°

 Key Formulas

Perimeter of a Rectangle $P = 2 \times (\text{length} + \text{width})$

Area of a Rectangle $A = \text{length} \times \text{width}$

Equivalent Fractions $\frac{a}{b} = \frac{a \times n}{b \times n}$



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PREVIEW

CHAPTER

1

Multiply, Divide, and Patterns

★ *What's Inside* ★

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★ 1.1 Multiplication as a Comparison ★

Quick Review: Multiplication as a Comparison

Multiplicative comparison means one amount is a certain number of **times as many** as another.

- Key phrase: **"times as many"** always means **multiply**.
- The equation form: **bigger** = **multiplier** $\times$ **smaller**

Example: Ava has 4 apples. Ben has 3 times as many apples as Ava.

$$\text{Ben's apples} = 3 \times 4 = 12$$

Reading an equation: $5 \times 6 = 30$ means "30 is 5 times as many as 6."

Warm-Up: True or Not?

Circle **YES** if the equation matches the sentence, or **NO** if it does not.

1. "18 is 3 times as many as 6." Equation: $3 \times 6 = 18$ YES / NO
2. "20 is 5 times as many as 4." Equation: $5 \times 4 = 20$ YES / NO
3. "12 is 4 times as many as 4." Equation: $4 \times 4 = 12$ YES / NO
4. "35 is 7 times as many as 5." Equation: $7 \times 5 = 35$ YES / NO
5. "24 is 3 times as many as 6." Equation: $3 \times 8 = 24$ YES / NO
6. "40 is 8 times as many as 5." Equation: $8 \times 5 = 40$ YES / NO



 Write the Multiplication Equation

Read each comparison sentence. Write the multiplication equation it describes.

7. "15 is 3 times as many as 5."

_____ $\times$ _____ = _____

8. "28 is 4 times as many as 7."

_____ $\times$ _____ = _____

9. "42 is 6 times as many as 7."

_____ $\times$ _____ = _____

10. "32 is 8 times as many as 4."

_____ $\times$ _____ = _____

11. "45 is 9 times as many as 5."

_____ $\times$ _____ = _____

12. "36 is 4 times as many as 9."

_____ $\times$ _____ = _____

 Complete the Comparison Statement

Fill in the blank to complete each sentence.

13. $5 \times 3 = 15$, so 15 is _____ times as many as 3.

14. $7 \times 4 = 28$, so 28 is _____ times as many as 4.

15. $6 \times 8 = 48$, so 48 is _____ times as many as 8.

16. $9 \times 3 = 27$, so 27 is _____ times as many as 3.

17. $4 \times 6 = 24$, so 24 is 4 times as many as _____.

18. $8 \times 7 = 56$, so 56 is 8 times as many as _____.

 True or False?

19. 54 is 6 times as many as 9.

True ☐ False ☐

20. 30 is 6 times as many as 6.

True ☐ False ☐

21. 63 is 7 times as many as 9.

True ☐ False ☐



22. 48 is 8 times as many as 7.

True ☐ False ☐

23. 36 is 4 times as many as 9.

True ☐ False ☐

Word Problems

24. A dog has 4 legs. An octopus has 2 times as many legs as a dog. How many legs does an octopus have?

Answer: _____ legs

25. Lily collected 6 shells. Owen collected 5 times as many shells as Lily. How many shells did Owen collect?

Answer: _____ shells

26. A blue ribbon is 3 centimeters long. A red ribbon is 7 times as long as the blue ribbon. How long is the red ribbon?

Answer: _____ centimeters

27. Marcus scored 9 points in a game. Kira scored 4 times as many points as Marcus. How many points did Kira score?

Answer: _____ points

Challenge!

28. I am a number that is 6 times as many as 8. What number am I? _____

29. Nina has some stickers. Jose has 56 stickers, which is 7 times as many as Nina. How many stickers does Nina have? _____



★ *Awesome work! You can now read, write, and solve multiplicative comparisons like a math superstar!* ★

PREVIEW



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CHAPTER

2

Adding, Subtracting, Multiplying, and Dividing Whole Numbers

★ *What's Inside* ★

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★ 2.1 Add Whole Numbers ★

Quick Review: Add Whole Numbers

To add multi-digit numbers, use the **standard algorithm**: line up digits by place value and add column by column from **right to left**.

- If a column adds to 10 **or more**, write the ones digit and **carry** the tens digit to the next column.
- Always add any **carried number** before moving on.

Example: $2,475 + 3,689$

- Ones: $5 + 9 = 14$, write 4, carry 1
- Tens: $7 + 8 + 1 = 16$, write 6, carry 1
- Hundreds: $4 + 6 + 1 = 11$, write 1, carry 1
- Thousands: $2 + 3 + 1 = 6$

Answer: **6,164**

Warm-Up: Add Without Regrouping

1. $234 + 451 = \underline{\hspace{2cm}}$

4. $4,310 + 3,208 = \underline{\hspace{2cm}}$

2. $612 + 375 = \underline{\hspace{2cm}}$

5. $5,142 + 1,436 = \underline{\hspace{2cm}}$

3. $1,203 + 2,564 = \underline{\hspace{2cm}}$

6. $30,412 + 14,256 = \underline{\hspace{2cm}}$



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 Add with Regrouping

7. $478 + 356 = \underline{\hspace{2cm}}$

10. $3,856 + 4,978 = \underline{\hspace{2cm}}$

8. $695 + 287 = \underline{\hspace{2cm}}$

11. $5,697 + 3,458 = \underline{\hspace{2cm}}$

9. $1,749 + 2,684 = \underline{\hspace{2cm}}$

12. $6,389 + 2,745 = \underline{\hspace{2cm}}$

 Find the Missing Number

13. $465 + \underline{\hspace{2cm}} = 800$

14. $\underline{\hspace{2cm}} + 587 = 1,024$

15. $2,750 + \underline{\hspace{2cm}} = 5,000$

16. $\underline{\hspace{2cm}} + 3,648 = 7,205$

17. $4,999 + \underline{\hspace{2cm}} = 10,000$

 True or False?

18. $346 + 254 = 600$

True ☐ False ☐

19. $1,999 + 1 = 2,100$

True ☐ False ☐

20. $2,486 + 3,514 = 6,000$

True ☐ False ☐

21. $750 + 250 = 1,100$

True ☐ False ☐

22. $4,567 + 5,433 = 10,000$

True ☐ False ☐

 Word Problems

23. A school collected 1,487 cans in October and 2,365 cans in November. How many cans were collected in all?

Answer: _____ cans

24. A library has 3,758 fiction books and 2,946 nonfiction books. How many books does the library have in total?

Answer: _____ books

25. On a road trip, a family drove 1,245 miles the first week and 1,879 miles the second week. How many miles did they drive altogether?

Answer: _____ miles

26. A farmer harvested 4,672 apples from one orchard and 3,958 apples from another. What is the total harvest?

Answer: _____ apples

 Challenge!

27. A school has 2,386 students. Next year 475 new students will join, and the year after 298 more. How many students will the school have then? _____

28. Find a pair of four-digit numbers that add up to exactly 10,000 and both numbers have the digit 5 in the hundreds place. _____

 **Awesome addition work! You can
add big numbers with confidence!** 



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THANK YOU

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Get the Full Book!

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The complete book includes:

- ✓ *All chapters and topics*
- ✓ *Hundreds of practice problems*
- ✓ *Complete answer key with explanations*
- ✓ *Colorful visuals and step-by-step examples*
- ✓ *Reference sheets and progress trackers*

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