Real Math for Real Life

A Gentle but Complete Guide to Practical Math for High School and Beyond

By Amy Maryon

What You'll Learn in This Book

A Practical Math Curriculum for Real-Life Confidence (Grades 8–12 & Adult Review) This course is designed to walk students step-by-step through the essential math skills they need to feel confident in real life. Whether you're a high schooler who needs a solid math foundation, an adult learner catching up, or a homeschooling parent guiding your child—this curriculum will take you from where you are to where you need to be.

Part I: Whole Numbers — The Building Blocks of Math You'll learn:

- How math shows up in everyday life (yes, you already use it!)
- The importance of mindset and confidence in learning
- What whole numbers are and how to use them
- How to add, subtract, multiply, and divide whole numbers
- Long division, estimating, and rounding in real situations
- Working with positive and negative numbers

Part II: Parts of the Whole — Fractions, Decimals, Percents You'll learn:

- How to understand and use fractions in real life
- How to convert between decimals, fractions, and percents
- How to perform operations with decimals and fractions
- Using percentages for sales, discounts, and budgeting
- Ratios and proportions in recipes, crafts, and planning
- Part III: Measurement & Geometry

You'll learn:

- How to read time, use a calendar, and calculate elapsed time
- Measuring with US customary and metric units
- Perimeter, area, and volume for real projects like painting or flooring
- Basic geometry and trigonometry used in everyday life
- Converting units for cooking, building, and shopping

Part IV: Financial Life Skills — Math You'll Actually Use You'll learn:

- How to budget monthly income and track expenses
- How to read a paycheck and understand taxes
- What credit is and how interest works
- Comparing loans, making big purchases, and avoiding scams
- Insurance, rent, utilities, and daily cost-of-living math

Part V: Business Math & Career Skills You'll learn:

- How to calculate markups, profit, and loss
- Math used in different careers—from chefs to nurses to entrepreneurs
- Reading charts, graphs, and understanding basic statistics
- Real business scenarios like invoicing, cost tracking, and earning projections
- How classroom math connects directly to real-world work
- Part VI: Technology, Probability & Real-World Decisions You'll learn:
- Basic probability and how it affects daily life
- Math used in digital life—storage, downloads, online shopping
- How to evaluate risk and make better choices
- How to think critically using statistics in the news and on social media
- Part VII: The Real Life Math Challenge (Capstone Project)

You'll learn:

- How to simulate living on your own (housing, bills, transportation, groceries)
- How to create and manage a monthly budget
- How to save for long-term goals
- How to adjust spending when things change
- How to feel confident using math in everyday adult life
- **10** Bonus: The Part of Tens (Tips and Tricks)

You'll learn:

- Study habits to set yourself up for success
- Tricks to remember number facts
- Common mistakes to avoid
- How to approach math with less stress
- Calculator tips and fast mental math strategies
- **By the end, you'll have:**
- \checkmark A solid math foundation
- ✓ Life-ready skills
- \checkmark Confidence to handle real-world decisions
- ✓ A sense of accomplishment—because you did it!

Chapter 1 Topics & Worksheets

- 1. You're Already Good at Maths
- 2. Your First Homework Assignment
- 3. Talking Yourself Up
- 4. Whole Numbers: Party Time!
- 5. Parts of the Whole: Fractions, Decimals, Percentages
- 6. Sizing Up Time, Weights, Measures, Shapes
- 7. Statistically Speaking
- 8. The Tools You Need
- 9. **Lapter 1 Review Worksheet**

Chapter 1: Getting Started

Whole Numbers — The Building Blocks of Math

Worksheet 1.1: You're Already Good at Math

Concept: You already use math every day. Whether you're cooking, shopping, or measuring time—math is helping you do it.

Practice:

- 1. \$5.75 + \$3.25 = _____
- 2. 20 ÷ 4 = _____
- 3. \$12.99 + \$3.75 =
- 4. \$10 split 5 ways = _____
- 5. You leave at 3:15 PM and walk 45 minutes. What time do you arrive?

- 1. \$9.00
- 2. 5
- 3. \$16.74
- 4. \$2
- 5. 4:00 PM

Worksheet 1.2: Your First Homework Assignment

Concept: This warm-up is to see what you know and build confidence—not to test you! **Practice:**

- 1. Fill in the blanks:
 - a. 25 = twenty-_____
 - b. 100 = one _____
 - c. 1,000 = one _____
- 2. Match the number to its word:
 - | 700 | A. Five hundred |
 - | 300 | B. Seven hundred |
 - | 500 | C. Three hundred |
- 3. What comes next?
 - a. 8, 10, 12, ____, ____
 - b. 95, 90, 85, ____, ____ c. 1,000, 900, 800, ____
- 4. Logic:
 - a. 5 apples 2 = _____
 - b. 8 pizza slices 3 = _____
 - c. 40 pages 10 read = _____

- 1. a. five, b. hundred, c. thousand
- 2. 700 = B, 300 = C, 500 = A
- 3. a. 14, 16; b. 80, 75; c. 700
- 4. a. 3; b. 5; c. 30

Worksheet 1.3: Talking Yourself Up

Concept: Confidence matters! Math is easier when we believe we can learn it. **Practice:**

- 1. Write 3 positive statements:
 - I can figure this out.
 - Mistakes help me grow.
 - I'm getting better every day.
- 2. Circle and describe a time you used math:

(Examples: budgeting, timing, recipes, estimating.)

3. Why does math feel hard sometimes? Write it out.

Answer Key:

✓ Personal reflection. No wrong answers—just growth!

Worksheet 1.4: Whole Numbers: Party Time!

Concept: Whole numbers are numbers without decimals or fractions (0, 1, 2, 3...). **Practice:**

- 1. Circle the whole numbers:
 - a. 7.5, 3, 0, 4.2, 10
 - b. 2, 5.1, 8, 11
- 2. Fill in the blanks:
 - a. The number after 999 is _____
 - b. The number before 401 is _____
 - c. 10 more than 35 is _____
- Number sense:
 Put these in order: 4, 0, 9, 2, 7 → _____
 Which is the smallest? _____
 Which is the largest? _____

- 1. 3, 0, 10 and 2, 8, 11
- 2. a. 1,000; b. 400; c. 45
- 3. 0, 2, 4, 7, 9 | Smallest: 0 | Largest: 9

Worksheet 1.5: Fractions, Decimals, and Percents (Intro)

Concept: Parts of a whole can be shown as fractions (½), decimals (0.5), or percents (50%). Practice:

- 1. Match the part to the percent:
 - a. ½ = ____% b. ¼ = ____% c. 0.75 = ____%
- 2. Convert:
 - a. 25% = _____ (decimal) b. 0.2 = ____%

 - C. ³/₄ = ____%
- 3. Real-life:

You eat 3 out of 4 slices of pizza. What fraction, decimal, and percent did you eat?

- 1. a. 50%; b. 25%; c. 75%
- 2. a. 0.25; b. 20%; c. 75%
- 3. ¾, 0.75, 75%

Worksheet 1.6: Sizing Up Time, Weights, Measures, and Shapes (Intro)

Concept: Math helps us tell time, measure weight and distance, and describe shapes. Practice:

- 1. Time: a. 1 hour = _____ minutes b. 1 day = _____ hours c. Half of 1 hour = _____ minutes 2. Weight: a. 1 pound = _____ ounces

 - b. Which is heavier: 3 lbs or 40 oz?
- 3. Shapes:

Name a shape with:

- a. 3 sides: _____
- b. 4 equal sides: _____
- c. No sides: _____

- 1. a. 60; b. 24; c. 30
- 2. a. 16 oz; b. 3 lbs (48 oz)
- 3. a. Triangle; b. Square; c. Circle

Worksheet 1.7: Statistically Speaking (Intro)

Concept: Statistics help us organize and understand data in everyday life.

Practice:

- 1. You surveyed 10 people about favorite fruit:
 - Banana: 3 Apple: 4 Grapes: 2 Orange: 1
- a. What was the most popular fruit? ______
- b. Least popular?
- b. Least popular? _____c. Total number of votes? _____
 - 2. Mean (average): You scored 80, 90, 85 on three tests. What's your average?

- 1. a. Apple; b. Orange; c. 10
- 2. $(80 + 90 + 85) \div 3 = 85$

Worksheet 1.8: The Tools You Need

Concept: Good tools make math easier! Common tools include: pencil, notebook, calculator, ruler, clock, measuring cup, etc.

Practice:

- 1. Circle the items that are math tools:
 - a. Notebook, sandwich, calculator, shoe, ruler, fork, measuring cup
- 2. Match the tool to its use:
 - a. Calculator \rightarrow _____
 - b. Ruler \rightarrow _____
 - c. Clock \rightarrow _____
 - d. Measuring cup \rightarrow _____

- 1. Notebook, calculator, ruler, measuring cup
- 2. a. Solving problems; b. Measuring length; c. Telling time; d. Measuring liquids

E Chapter 1 Review Worksheet

What You've Learned:

- Math shows up in everyday life
- You already know more than you think
- Whole numbers, parts of numbers, measuring, and tools
- Building confidence is part of learning

Review Questions:

- 1. What is 3 + 9 = _____
- 2. ½ as a percent = ____%
- 3. Which is heavier: 2 lbs or 30 oz?
- 4. What comes next: 10, 20, 30, ____, ____
- 5. What's the average of 70, 80, 90?

- 1. 12
- 2. 50%
- 3. 30 oz
- 4. 40, 50
- 5. 80

Chapter 2: Setting Yourself Up for Success

What You'll Learn:

In this chapter, you'll discover what helps make learning math easier. You'll explore:

- Helpful study habits and tools
- How to create a math-friendly space
- The importance of note-taking and writing things down
- How to build confidence through small steps
- Tricks to stay focused and avoid math frustration

Let's begin!

Worksheet 2.1: Make Math Work for You

Concept:

Everyone learns a little differently—and that's okay! What matters most is having the right tools and setting up a space that helps you concentrate.

Practice: Your Math Setup 1. List 3 things that help you focus when doing math: a. _____ b. _____ C. 2. Where do you do your math work? □ Kitchen table □ Bedroom desk □ Couch □ Library □ Other: 3. What would make your math space better? □ Better lighting □ A timer □ Quiet space Comfy chair □ Snacks :) □ Other: _____

📌 Reflect:

Why is it helpful to keep a notebook or journal for math?

Answer Key:

✓ All answers are personal. If you answered honestly and thought about your space, you're already improving your success!

Worksheet 2.2: Small Wins Add Up

Concept:

Math is a skill—just like cooking, biking, or playing piano. You get better with practice. Every time you try, you grow stronger—even if it's just a little.

Practice: Let's Track Some Wins

1. Today I completed:

- \Box This worksheet
- □ A full page of practice problems
- □ One new concept
- □ I corrected a mistake
- □ I asked for help
- □ I stayed focused for 10 minutes
- 2. Write a win from this week:

3. A mistake I made today (and what I learned from it):

4. Something I now understand better:

Answer Key:

✓ Reflection builds growth. Celebrate each step, no matter how small!

Worksheet 2.3: Building a Math Habit

Concept:

It's not about being perfect. It's about showing up! The more you practice—even in short, focused times—the more confident you become.

Practice:

1. Circle your best time of day to do math:

- * Morning
- 🌤 Midday
- 🌙 Evening

2. I can commit to doing math this many days each week:

- □1□2□3□4□5
- 3. My goal for this week is:

4. What distracts me the most? How can I avoid it?

Answer Key:

✓ No wrong answers here—this is a plan for YOU. The goal is steady progress, not perfection.

Worksheet 2.4: Quick Math Tools

Concept:

Some tools are simple but powerful! Knowing how and when to use them makes math easier.

Practice: Match the tool to the purpose.

Tool	Purpose

Calculator A. Measures liquid volume

Ruler B. Adds, subtracts, multiplies, divides

Clock C. Tells time

Measuring cup D. Measures length

Notebook E. Keeps notes and steps organized

Now match:

- 1. Calculator \rightarrow ____
- 2. Ruler \rightarrow _____
- 3. Clock \rightarrow ____
- 4. Measuring cup \rightarrow ____
- 5. Notebook \rightarrow _____

- 1. B
- 2. D
- 3. C
- 4. A
- 5. E

Chapter 2 Review Worksheet

What You Learned in This Chapter:

- Good study habits make math easier
- You can grow your skills a little at a time
- Tracking wins builds confidence
- The right space and tools help you focus

Review Questions:

- 1. What's one way you can make your math time less stressful?
- 2. Name one thing that makes your math space better:
- 3. What's one small win you had this week?
- 4. Which tool helps you most during math?
 - □ Calculator
 - □ Notebook
 - 🗆 Timer
 - 🗆 Ruler
- 5. Why is it okay to make mistakes when learning math?



✓ All answers are personal reflections—use this review to celebrate your growth and plan ahead!

Chapter 3: It All Adds Up – Addition and Subtraction

What You'll Learn:

In this chapter, you'll practice two of the most essential math operations: addition and subtraction. You'll learn:

- How to line up numbers correctly
- How to carry and borrow
- Strategies to add and subtract large numbers
- How to solve word problems
- Mental math tricks
- When and why to estimate

Worksheet 3.1: Adding Whole Numbers

Concept:

Addition means combining numbers to make a total. Start from the right and move left. Stack the numbers carefully by place value.

Practice: Add the following:

- 1. 45 + 38 = _____
- 2. 326 + 489 = _____
- 3. 1,457 + 2,306 = _____
- 4. 78 + 63 + 24 = _____

Bonus: Real life:

You go shopping and spend \$19.75, \$34.25, and \$10.50. How much did you spend in total? Total = \$_____

Answer Key:

- 1. 83
- 2. 815
- 3. 3,763
- 4. 165

Bonus: \$64.50

Worksheet 3.2: Subtracting Whole Numbers

Concept:

Subtraction means taking one number away from another. If the top number is smaller than the bottom number in any place value, you'll need to "borrow."

Practice: Subtract the following:

- 1. 94 57 = _____

 2. 600 275 = _____
- 3. 1,050 432 = _____
- 4. 7,000 3,888 = _____

Bonus:

You had \$100. You spent \$27.65. How much do you have left?

\$_____

- 1. 37
- 2. 325
- 3. 618
- 4. 3,112
 - Bonus: \$72.35

Worksheet 3.3: Word Problems

Concept:

Word problems help you apply math in real-life situations. Look for keywords like *altogether, more, left, change, total, difference*.

Practice:

- 1. Sara has 125 stickers. She buys 75 more. How many does she have now? Answer: _____
- 2. You baked 60 cookies. You gave away 27. How many are left? Answer: _____
- 3. You read 15 pages each day for 4 days. How many pages total? Answer: _____
- 4. A store had 2,000 cans. They sold 1,455. How many are left? Answer: _____



- 1. 200
- 2. 33
- 3. 60
- 4. 545

Worksheet 3.4: Mental Math and Estimating

Concept:

You don't always need a pencil to do math! Mental math helps you add and subtract quickly in your head. Rounding makes estimating easier.

Practice:

- 1. Estimate the total:
 - a. 198 + 203 ≈ _____
 - b. 49 + 52 ≈ _____
 - c. 725 122 ≈ _____
- 2. Round these numbers to the nearest ten:
 - a. 47 = _____
 - b. 92 = _____
 - c. 136 = _____
- Trick: Break up numbers!
 125 + 38 → Think of 125 + 40 = 165, then subtract 2 = _____

Answer Key: 1a. ≈ 400 1b. ≈ 100 1c. ≈ 600 2a. 50 2b. 90 2c. 140 3. 163

Worksheet 3.5: Addition and Subtraction Mix-Up

Concept:

Now let's mix both skills. Read carefully to decide whether to add or subtract.

Practice:

- 1. 700 245 = _____
- 2. 86 + 34 = _____
- 3. 500 199 = _____
- 4. 25 + 60 15 = _____
- 5. 1,230 890 + 50 = _____

- 1. 455
- 2. 120
- 3. 301
- 4. 70
- 5. 390

Chapter 3 Review Worksheet

What You Learned in This Chapter:

- How to add and subtract large numbers
- How to carry and borrow
- Real-life uses for adding and subtracting
- Mental math shortcuts and estimating

Review Questions:

- 1. 2,345 + 1,678 = _____
- 2. 4,000 2,275 = _____
- 3. Round 153 to the nearest ten: _____
- 4. Estimate: 489 + 312 ≈ _____
- 5. Word problem: You have \$500. You buy a bike for \$325. How much do you have left?

- 1. 4,023
- 2. 1,725
- 3. 150
- 4. ≈ 800
- 5. \$175

Chapter 4: Equal Piles — Multiplying and Dividing

What You'll Learn:

In this chapter, you'll build skills to multiply and divide whole numbers with ease. You'll learn:

- How to multiply multi-digit numbers
- How to divide using long division
- How to solve real-world problems with multiplication and division
- Mental math strategies
- How to estimate products and quotients

Worksheet 4.1: Multiplying Whole Numbers

i Concept:

Multiplication is repeated addition. If you know $4 \times 5 = 20$, that means 4 groups of 5 make 20.

Practice:

- 1. 6 × 7 = _____
- 2. 12 × 9 = _____
- 3. 23 × 4 = _____
- 4. 125 × 6 = _____
- 5. 1,203 × 3 = _____

Bonus:

You buy 8 notebooks at \$2.25 each. What's the total cost?

- 1. 42
- 2. 108
- 3. 92
- 4. 750
- 5. 3,609
 - Bonus: \$18.00

Worksheet 4.2: Dividing Whole Numbers

Concept:

Division means splitting a number into equal parts. It's the opposite of multiplication.

Practice:

- 1. 28 ÷ 7 = _____
- 2. 144 ÷ 12 = _____
- 3. 625 ÷ 5 = _____
- 4. 1,200 ÷ 6 = _____
- 5. 3,052 ÷ 4 =

Bonus:

You have 84 cookies to divide evenly among 7 friends. How many does each friend get?

Answer Key:

- 1. 4
- 2. 12
- 3. 125
- 4. 200
- 5. 763

Bonus: 12 cookies each

Worksheet 4.3: Word Problems with Multiplication & Division

Concept:

Real life uses multiplication and division every day—shopping, sharing, saving, building, and more. **Practice:**

- 1. A baker makes 36 cookies a day. How many cookies after 5 days? Answer: _____
- 2. A class has 180 pencils. Each student gets 6. How many students are there? Answer: _____
- 3. You save \$25 per week. How much after 12 weeks? Answer: _____
- 4. You divide 1,000 flyers among 20 helpers. How many flyers per person? Answer: _____

- 1. 180
- 2. 30
- 3. 300
- 4. 50

Worksheet 4.4: Mental Math & Estimating

Concept:

Mental math lets you solve problems quickly without a calculator. Rounding helps you estimate when exact numbers aren't needed.

Practice:

- 1. Estimate:
 - a. 198 × 4 ≈ _____
 - b. 93 ÷ 3 ≈ _____
 - c. 412 ÷ 7 ≈ _____
- 2. Use rounding:
 a. 49 × 5 → Think: 50 × 5 = _____
 b. 302 ÷ 10 = _____
- 3. Solve in your head:
 - a. 10 × 12 = _____
 - b. 60 ÷ 6 = _____

Answer Key:
1a. 800
1b. 30
1c. ≈ 60
2a. 250
2b. 30.2
3a. 120
3b. 10

Worksheet 4.5: Multiplication and Division Mix-Up

Concept:

You'll often need both multiplication and division to solve real-life problems. Read carefully to know what's needed.

Practice:

- 1. 225 ÷ 5 = _____
- 2. 48 × 7 = _____
- 3. 1,000 ÷ 25 = _____
- 4. 36 × 12 = _____
- 5. 600 ÷ 10 = _____

- 1. 45
- 2. 336
- 3. 40
- 4. 432
- 5. 60

E Chapter 4 Review Worksheet

What You Learned in This Chapter:

- How to multiply and divide numbers
- When to estimate
- How to solve word problems using multiplication and division
- Real-life uses for equal groups and sharing

Review Questions:

- 1. 23 × 6 = _____
- 2. 300 ÷ 12 = _____
- 3. You buy 4 shirts at \$18 each. What's the total?
- 4. You divide \$120 among 8 friends. How much per friend?
- 5. Estimate: 199 × 5 ≈ _____

- 1. 138
- 2. 25
- 3. \$72
- 4. \$15
- 5. ≈ 1,000

Chapter 5: Are We Nearly There Yet? — Rounding and Estimating What You'll Learn:

In this chapter, you'll sharpen your estimation skills. You'll learn:

- How to round numbers to the nearest ten, hundred, or thousand
- How to estimate sums, differences, products, and quotients
- Why estimation is useful in real life
- How to decide when to round up or down
- Tricks to simplify mental math using estimation

Worksheet 5.1: Rounding Numbers

Concept:

Rounding means making numbers simpler while keeping them close to their original value. You round based on place value.

Practice: Round to the nearest...

- 1. Ten:
 - a. 76 → _____ b. 243 → _____
- c. 89 → _____
- 2. Hundred:
 - a. 178 → _____ b. 1,234 → _____
 - c. 967 → _____
- 3. Thousand:
 - a. 4,122 → _____

 - b. 7,650 → _____ c. 9,499 → _____

Answer Key: 1a. 80 1b. 240 1c. 90 2a. 200 2b. 1,200 2c. 1,000

3a. 4,000

3b. 8,000 3c. 9,000
Worksheet 5.2: Estimating Sums and Differences

Concept:

When you don't need an exact number, estimating can save time. Round first, then do the math.

Practice:

- 1. Estimate the sum:
 - a. 198 + 423 ≈ _____
 - b. 367 + 612 ≈ _____
 - c. 89 + 47 ≈ _____
- Estimate the difference:
 a. 302 147 ≈ _____
 - b. 715 499 ≈ _____
 - c. 68 31 ≈ _____

Answer Key: 1a. ≈ 600 1b. ≈ 1,000

- 1c. ≈ 140 2a. ≈ 150
- 2b. ≈ 200
- 20. ~ 200 2c. ≈ 40

Worksheet 5.3: Estimating Products and Quotients

***** Concept:

Multiplying and dividing large numbers is easier with rounded estimates. You get close enough to check your work or make quick decisions.

Practice:

- 1. Estimate the product:
 - a. 52 × 6 ≈ _____
 - b. 134 × 8 ≈ _____
 - c. 999 × 3 ≈ _____
- 2. Estimate the quotient:
 - a. 98÷5≈_____
 - b. 205 ÷ 10 ≈ _____
 - c. 880 ÷ 40 ≈ _____

Answer Key:

1a. ≈ 50 × 6 = 300 1b. ≈ 130 × 8 = 1,040 1c. ≈ 1,000 × 3 = 3,000 2a. ≈ 100 ÷ 5 = 20 2b. ≈ 200 ÷ 10 = 20 2c. ≈ 900 ÷ 40 = 22.5

Worksheet 5.4: Rounding in Real Life

Concept:

When shopping, budgeting, or planning, rounding helps you make fast choices. **Practice:**

- You buy 3 items: \$5.99, \$12.49, and \$7.75
 a. Round each price to the nearest dollar
 b. Add the rounded prices: Total ≈ \$_____
- 2. You drive 196 miles. Your friend drives 211 miles. Estimate the total distance: _____
- 3. You earn \$37 a day. You want to estimate your weekly pay (7 days). Estimate total: _____

Answer Key:
 1a. \$6, \$12, \$8
 1b. \$26
 2. ≈ 400 miles
 3. ≈ \$260

E Chapter 5 Review Worksheet

What You Learned in This Chapter:

- How to round numbers by place value
- When and why to estimate
- How to apply rounding in daily life
- Estimating with all four operations

Review Questions:

- 1. Round 1,234 to the nearest hundred: _____
- 2. Estimate: 487 + 198 ≈ _____
- 3. Estimate: 690 ÷ 3 ≈ _____
- Round 7,899 to the nearest thousand: _____
- 5. If you buy items priced at \$2.49, \$3.75, and \$4.99, about how much will you spend?

- 1. 1,200
- 2. ≈ 700
- 3. ≈ 230
- 4. 8,000
- 5. ≈\$11

Chapter 6: Cake or Death — Fractions Without Fear

What You'll Learn:

In this chapter, you'll dive into fractions—how to read them, write them, compare them, and use them in real life. You'll learn:

- What a fraction is and what each part means
- How to simplify (reduce) fractions
- How to compare, add, and subtract fractions
- How to multiply and divide fractions
- Real-life uses for fractions in cooking, shopping, and sharing

Worksheet 6.1: Understanding Fractions

Concept:

A fraction shows a part of a whole. The top number (numerator) tells how many parts you have. The bottom number (denominator) tells how many parts make the whole.

Practice:

- 1. Label the parts: In $\frac{3}{4} \rightarrow 3$ is the _____, 4 is the _____
- Write the fraction:
 a. You eat 2 out of 5 slices of pizza = _____
 b. 1 out of 4 tires is flat = _____
- Draw and shade: Draw a circle. Divide it into 8 parts. Shade in 3 of them. Write the fraction: _____

- 1. numerator, denominator
- 2. a. 2/5, b. 1/4
- 3. (Student drawing) $\rightarrow 3/8$

Worksheet 6.2: Simplifying Fractions

Concept:

Simplifying means rewriting a fraction in its smallest form. Divide the top and bottom by the same number.

Practice:

- 1. Simplify:
 - a. 4/8 = _____
 - b. 10/15 =
 - c. 12/16 = _____
- 2. Which is the same as 3/5?
 - □ 6/10
 - □ 9/15
 - □ 4/6
- 3. True or False:
 - a. 2/4 = 1/2 → _____ b. 6/9 = 2/3 → _____

- 1. a. 1/2, b. 2/3, c. 3/4
- 2. <a>6/10
- 3. a. True, b. True

Worksheet 6.3: Comparing Fractions

Concept:

To compare fractions, you need common denominators or you can convert to decimals. You can also use cross-multiplication to compare.

Practice:

1. Which is greater? a. $2/3 \text{ or } 3/4 \rightarrow ____$ b. $1/2 \text{ or } 3/8 \rightarrow _____$ c. $5/6 \text{ or } 4/5 \rightarrow _____$ 2. Use >, <, or =: a. $1/2 __ 2/4$ b. $3/6 __ 1/2$ c. $5/10 __ 1/2$

Answer Key: 1a. 3/4 1b. 1/2 1c. 5/6 2a. = 2b. = 2c. = Worksheet 6.4: Adding and Subtracting Fractions

Concept:

To add or subtract fractions, the denominators must be the same. If they're not, find a common denominator first.

Practice:

- 1. Add:
 - a. 1/4 + 1/4 = _____ b. 2/5 + 1/5 = _____ c. 3/8 + 2/8 = _____
- 2. Subtract:
 - a. 3/4 1/4 = _____ b. 5/6 – 2/6 = _____
 - c. 7/10 3/10 = _____
- 3. Real life:

You drank 2/3 of your water and then drank another 1/3. How much did you drink in total?

Answer Key:

1a. 2/4 or 1/2 1b. 3/5 1c. 5/8 2a. 2/4 or 1/2 2b. 3/6 or 1/2 2c. 4/10 or 2/5 3. 3/3 or 1 whole Worksheet 6.5: Multiplying and Dividing Fractions

Concept:

To multiply fractions, multiply straight across. To divide, flip the second fraction and multiply.

Practice:

Multiply:

 a. 1/2 × 1/4 = ______
 b. 2/3 × 3/5 = ______
 c. 4/7 × 2/3 = ______
 c. 1/2 ÷ 1/4 = ______
 b. 2/5 ÷ 1/5 = ______
 b. 2/5 ÷ 1/5 = ______
 c. 3/4 ÷ 3/8 = ______

Answer Key:

1a. 1/8 1b. 6/15 or 2/5 1c. 8/21 2a. 2 2b. 2 2c. 2

Chapter 6 Review Worksheet

What You Learned in This Chapter:

- How to read, draw, and write fractions
- How to simplify and compare them
- How to add, subtract, multiply, and divide fractions
- Real-world uses like recipes and sharing

Review Questions:

- 1. 3/4 + 1/4 = _____ 2. 6/10 simplified = _____
- 3. 2/3 × 3/4 = _____
- 4. 5/6 1/6 = _____
- 5. You divide 3/4 by 1/2. What do you get?

- 1. 1 whole
- 2. 3/5
- 3. 6/12 or 1/2
- 4. 4/6 or 2/3
- 5. 1½ or 3/2

Chapter 7: What's the Point? — Dealing with Decimals

What You'll Learn:

In this chapter, you'll get comfortable working with decimals. You'll learn:

- What decimals are and how they relate to fractions
- How to read and write decimals
- How to compare and round decimals
- How to add, subtract, multiply, and divide decimals
- Real-life uses like money, measurement, and shopping

Worksheet 7.1: Understanding Decimals

Concept:

Decimals show parts of a whole using place value. The decimal point separates whole numbers from fractional parts (tenths, hundredths, etc.).

Practice:

- 1. Write these decimals in words:

 - a. 0.5 = _____ b. 2.75 = _____
 - c. 6.01 = _____
- 2. Write as a decimal:
 - a. Five tenths =
 - b. Seven and twenty-five hundredths = _____
 - c. Four hundredths =
- 3. Fill in the place value chart for 3.48
- 3 = _____
- 4 = _____
- 8 = _____

Answer Key:

- 1a. Five tenths
- 1b. Two and seventy-five hundredths
- 1c. Six and one hundredth

2a. 0.5

2b. 7.25

2c. 0.04

3. Whole number | tenths | hundredths

Worksheet 7.2: Comparing and Rounding Decimals

Concept:

Compare decimals like regular numbers—start at the left. To round, look at the place you're rounding to and the digit that follows.

Practice:

- 1. Compare using >, <, or =
 - a. 0.8 ____ 0.75
 - b. 1.25 ____ 1.3
 - c. 0.40 ____ 0.4
- 2. Round to the nearest tenth:
 - a. 3.67 → _____
 - b. 9.84 → _____
 - c. 2.45 → _____
- 3. Round to the nearest whole number:
 - a. 5.6 → _____
 - b. 8.2 → _____
 - c. 3.9 → _____

- 1a. >
- 1b. <
- 1c. =
- 2a. 3.7
- 2b. 9.8
- 2c. 2.5
- 3a. 6
- 3b. 8
- 3c. 4

Worksheet 7.3: Adding and Subtracting Decimals

Concept:

Line up the decimal points when adding or subtracting. Fill in empty places with zeroes if needed.

Practice:

- 1. Add:
 - a. 1.2 + 0.8 = _____ b. 3.75 + 1.5 = _____ c. 12.04 + 0.96 = _____
- 2. Subtract:
 - a. 5.0 2.5 = _____ b. 8.75 – 3.2 = _____ c. 10.5 – 0.75 = _____

Answer Key: 1a. 2.0 1b. 5.25 1c. 13.00 2a. 2.5 2b. 5.55 2c. 9.75

Worksheet 7.4: Multiplying and Dividing Decimals

Concept:

To multiply decimals, ignore the decimal point, multiply as usual, then place the decimal in the answer. For division, move the decimal in both numbers if needed.

Practice:



Answer Key:

1a. 1.2

1b. 3.0

1c. 0.3

2a. 2.1

2b. 30

2c. 15

Worksheet 7.5: Decimals in Real Life

Concept:

Decimals show up all the time—on price tags, gas pumps, recipes, and even weather reports!

Practice:

- 1. A watermelon weighs 3.75 lbs and a cantaloupe weighs 1.5 lbs. What is the total weight? _____
- 2. You have \$10. You spend \$2.75 and \$4.50. How much is left?
- 3. A recipe calls for 1.25 cups of sugar. You add only 0.75 cups. How much more do you need? _____

- 1. 5.25 lbs
- 2. \$2.75
- 3. 0.5 cups

E Chapter 7 Review Worksheet

What You Learned in This Chapter:

- What decimals are and how to read them
- How to compare and round decimals
- How to add, subtract, multiply, and divide decimals
- Real-life uses of decimals

Review Questions:

- 1. 0.25 + 0.75 = _____
- 2. 3.8 1.3 = _____
- 3. Round 4.68 to the nearest tenth = _____
- 4. 0.5 × 0.4 = _____
- 5. You have \$20. You spend \$6.45 and \$3.10. What's left? _____

- 1. 1.0
- 2. 2.5
- 3. 4.7
- 4. 0.2
- 5. \$10.45

Chapter 8: It's All Relative — Ratios and Proportions

What You'll Learn:

This chapter is all about relationships between numbers. You'll learn:

- What a ratio is and how to write it
- How to compare two amounts using ratios
- How to solve proportions (equal ratios)
- How to use cross-multiplication to find missing values
- Real-life uses for ratios in recipes, maps, and models

Worksheet 8.1: Understanding Ratios

Concept:

A ratio shows the relationship between two quantities. It can be written in 3 ways:

- With a colon (2:3)
- As a fraction (2/3)
- In words ("2 to 3")

Practice:

- 1. Write the ratio in all 3 forms:
- a. 4 apples to 5 oranges = :, /, "_____ to ____" b. 7 boys and 3 girls = :, /, "_____ to ____"
- - 2. In a box of markers, 10 are red and 15 are blue. Write the ratio of red to blue =
 - 3. There are 12 cookies and 8 brownies. Ratio of cookies to total treats = _____ Ratio of brownies to cookies = _____

Answer Key: 1a. 4:5, 4/5, "4 to 5" 1b. 7:3, 7/3, "7 to 3" 2. 10:15 or 2:3 3. 12:20 or 3:5; 8:12 or 2:3 Worksheet 8.2: Working with Proportions

Concept:

A **proportion** is an equation where two ratios are equal. You can solve proportions using crossmultiplication.

Practice:

- 1. Are these proportions true?
 - a. 2/3 = 4/6 → _____
 - b. 5/10 = 3/6 →
 - c. 7/8 = 14/16 → _____
- 2. Solve for x: a. $x/3 = 6/9 \rightarrow x = _____$ b. $4/x = 8/10 \rightarrow x = _____$ c. $3/5 = x/10 \rightarrow x = _____$
- 3. Cross-multiply and solve: a. $2/x = 4/10 \rightarrow x =$ _____ b. $x/6 = 3/9 \rightarrow x =$ _____

- 1a. Yes
- 1b. No
- 1c. Yes
- 2a. x = 2
- 2b. x = 5
- 2c. x = 6
- 3a. x = 5
- 3b. x = 2

Worksheet 8.3: Real-Life Ratios

Concept:

Ratios and proportions are everywhere—in recipes, scale models, and distance maps.

Practice:

- A recipe uses 2 cups of flour for every 3 cups of sugar. How much flour do you need if you use 9 cups of sugar? Answer: _____
- A map says 1 inch = 50 miles.
 How many miles does 3.5 inches represent?
 Answer: _____
- A model car is built at a 1:12 scale.
 If the model is 6 inches long, how long is the real car?
 Answer: _____
- At a party, the drink mix is 1 part juice to 4 parts water. If you use 8 cups of water, how much juice do you need? Answer: _____

- 1. 6 cups of flour
- 2. 175 miles
- 3. 72 inches (6 × 12)
- 4. 2 cups of juice

Chapter 8 Review Worksheet

What You Learned in This Chapter:

- Ratios compare two quantities
- Proportions show two equal ratios
- Cross-multiplication helps you solve for missing values
- Real-life situations often rely on ratios and proportions

Review Questions:

- 1. Write the ratio 5 cats to 8 dogs three ways: ______
- 2. Is 3/4 = 6/8? (Yes or No): _____
- 3. Solve: $x/4 = 9/12 \rightarrow x =$ _____
- 4. A scale says 1 in = 10 feet. If a model is 7 inches long, how many feet in real life? Answer: ______
- 5. A recipe is 2 eggs to 5 cups of flour. If you use 10 cups of flour, how many eggs do you need? Answer: ______

- 1. 5:8, 5/8, "5 to 8"
- 2. Yes
- 3. x = 3
- 4. 70 feet
- 5. 4 eggs

Chapter 9: Perfect Percentages, 100% of the Time

What You'll Learn:

In this chapter, you'll explore how to work with percentages. You'll learn:

- What a percent is and how it relates to fractions and decimals
- How to convert between fractions, decimals, and percents
- How to calculate percentages of numbers
- How to find total amounts and percentage increases/decreases
- Real-life uses like tips, sales tax, and discounts

Worksheet 9.1: Understanding Percents

***** Concept:

A percent (%) means "per hundred." So 50% means 50 out of 100. You can write a percent as a decimal or a fraction.

Practice:

- 1. Convert these to decimals:
 - a. 50% = _____
 - b. 25% = _____
 - c. 75% = _____
- 2. Convert these to fractions:
 - a. 20% = _____
 - b. 10% = _____
 - c. 80% = _____
- 3. Match each pair:
 - a. 0.5 → 🗆 50%
 - b. $\frac{1}{4} \rightarrow \Box 25\%$
 - c. 0.01 \rightarrow \Box 1%
 - d. ⅓ → 🗆 80%

Answer Key:

1a. 0.50 1b. 0.25 1c. 0.75 2a. 1/5 2b. 1/10 2c. 4/5 3. $a \rightarrow 50\%$, $b \rightarrow 25\%$, $c \rightarrow 1\%$, $d \rightarrow 80\%$ Worksheet 9.2: Finding a Percent of a Number

Concept:

To find a percent of a number, multiply: % × total = part (Convert the % to a decimal first)

Practice:

- 1. What is:
 - a. 50% of 100 = _____
 - b. 25% of 80 = _____
 - c. 10% of 250 =
- 2. Find:
 - a. 20% of 60 = _____
 - b. 75% of 40 = _____
 - c. 5% of 200 = _____
- 3. Real life: You tip 15% on a \$40 meal.

. Tip = _____

Answer Key: 1a. 50 1b. 20 1c. 25 2a. 12 2b. 30 2c. 10 3. \$6

Worksheet 9.3: Finding the Total from a Percent

i Concept:

If you know the percent and the part, you can find the total: Part ÷ % (as decimal) = Total

Practice:

- 1. 40 is 20% of what number?
 - _____÷ 0.20 = _____→ Answer: _____
- 2. 12 is 30% of what number?
- _____÷ 0.30 = _____ → Answer: _____
- 3. You paid \$18 in tax, which was 6%. What was the price before tax?



- 1. 200
- 2. 40
- 3. \$300

Worksheet 9.4: Increase and Decrease by Percent

Concept:

To increase: add the percent To decrease: subtract the percent New value = original × (1 ± % as decimal)

Practice:

- 1. Increase \$50 by $10\% \rightarrow$ _____
- 2. Decrease 120 by 25% \rightarrow _____
- Your item costs \$80 and is marked down 20%. New price = _____
- 4. A \$150 item gets a 15% discount. How much do you save? What's the final price?

- 1. \$55
- 2. \$90
- 3. \$64
- 4. Save = \$22.50, Final = \$127.50

Worksheet 9.5: Percent Practice in Real Life

Concept:

Percent is everywhere—sales, tips, taxes, grades, battery levels!

Practice:

- A \$120 coat is 40% off. How much do you save? _____
 What's the sale price? _____
- Your grade is 18/20. What percent is that?
- 3. A phone is at 80% battery. You use 30%. How much is left? _____

- 1. Save \$48, Sale price \$72
- 2. 90%
- 3. 50%

E Chapter 9 Review Worksheet

What You Learned in This Chapter:

- What percents are
- How to convert between decimals, fractions, and percents
- How to calculate percent of a number
- How to apply percent to tips, discounts, and more

Review Questions:

- 1. 20% of 150 = _____
- 2. 0.75 = ____%
- 3. ½ = ____%
- 4. A \$100 item is 15% off. What's the discount? What's the sale price?
- 5. If you scored 45 out of 50, what's your grade as a percent?

- 1. 30
- 2. 75%
- 3. 50%
- 4. Discount = \$15, Sale = \$85
- 5. 90%

Chapter 10: Clocking Time

What You'll Learn:

This chapter helps you understand how time works—on both clocks and calendars. You'll learn:

- How to read digital and analog clocks
- How to count hours and minutes
- How to convert between hours, minutes, and seconds
- How to calculate time passed or time remaining
- How to work with 12-hour and 24-hour time formats

Worksheet 10.1: Reading Clocks

Concept:

There are two main types of clocks:

- Analog shows time with hands
- Digital shows time with numbers (e.g., 3:45)

Practice:

- 1. What time is it?
 - a. The hour hand is between 2 and 3; the minute hand is on the 6 = _____
 - b. Digital clock shows 12:15 = _____
 - c. Minute hand at 12, hour hand at 5 = _____
- 2. AM or PM?
 - a. You eat breakfast at 7:30 _____
 - b. You watch a movie at 8:15 ____
 - c. You leave school at 3:00 ____

Answer Key: 1a. 2:30 1b. 12:15

1c. 5:00

2a. AM

2b. PM

2c. PM

Worksheet 10.2: Minutes and Hours

Concept:

- 1 hour = 60 minutes
- 1 minute = 60 seconds
- A day = 24 hours

Practice:

- 1. Fill in the blanks:
 - a. 2 hours = _____ minutes
 - b. 90 minutes = _____ hour and _____ minutes
 - c. 180 seconds = _____ minutes
- 2. Add or subtract time:
 - a. 45 min + 20 min = _____
 - b. 2 hours 30 minutes = _____
 - c. 3 hours + 75 minutes = _____

Answer Key:

1a. 120
1b. 1 hour and 30 minutes
1c. 3 minutes
2a. 65 minutes or 1 hour 5 min
2b. 1 hour 30 min
2c. 4 hours 15 min

B Worksheet 10.3: Elapsed Time

Concept:

Elapsed time is how long something takes. To figure it out, subtract the start time from the end time.

Practice:

- You start reading at 2:00 PM and stop at 3:30 PM. How much time passed? _____
- Your soccer game begins at 4:15 PM and ends at 5:45 PM. Elapsed time = _____
- 3. The movie starts at 7:00 PM and runs for 2 hours and 20 minutes. What time does it end? ______
- 4. You go to bed at 10:30 PM and wake up at 6:30 AM. How many hours of sleep did you get? _____

- 1. 1 hour 30 minutes
- 2. 1 hour 30 minutes
- 3. 9:20 PM
- 4. 8 hours

Worksheet 10.4: 12-Hour vs 24-Hour Time

Concept:

- 12-hour time: AM/PM
- 24-hour time: Military-style, no AM or PM (1:00 PM = 13:00, 6:00 PM = 18:00)

Practice: Convert the time formats

- 1. 12-hour to 24-hour:
 - a. 1:00 PM = _____
 - b. 9:00 PM = _____
 - c. 6:30 AM = _____
- 2. 24-hour to 12-hour:
 - a. 14:00 = _____
 - b. 23:15 = _____
 - c. 08:45 = _____

Answer Key:

1a. 13:00 1b. 21:00 1c. 06:30 2a. 2:00 PM 2b. 11:15 PM 2c. 8:45 AM

Worksheet 10.5: Time in Real Life

i Concept:

We use time to plan, stay on schedule, cook, travel, and more.

Practice:

- 1. You start a project at 11:45 AM. It takes 2 hours and 20 minutes. What time will you finish? _____
- 2. A TV show lasts 30 minutes. It starts at 6:15 PM. When does it end? _____
- You bake a cake at 2:00 PM for 1 hour 15 minutes.
 When should you take it out of the oven? _____

- 1. 2:05 PM
- 2. 6:45 PM
- 3. 3:15 PM
Chapter 10 Review Worksheet

What You Learned in This Chapter:

- How to read analog and digital clocks
- How to convert between minutes, hours, and seconds
- How to calculate elapsed time
- How to use 24-hour and 12-hour formats

Review Questions:

- 1. What is 3 hours and 45 minutes in minutes?
- 2. Convert 7:30 PM to 24-hour time: _____
- 3. You leave at 10:00 AM and return at 1:15 PM. How long were you gone? _____
- 4. A train leaves at 11:50 and takes 1 hour and 40 minutes. What time does it arrive?
- 5. Is 14:00 AM or PM in 12-hour time?

- 1. 225 minutes
- 2. 19:30
- 3. 3 hours 15 minutes
- 4. 1:30 PM
- 5. PM

Chapter 11: Working with Cold, Hard Cash

What You'll Learn:

This chapter focuses on understanding money. You'll learn:

- How to count coins and bills
- How to write amounts of money correctly
- How to make change
- How to add, subtract, multiply, and divide money
- Real-life uses like budgeting, shopping, and saving

Worksheet 11.1: Counting Money

Concept:

Money uses dollars and cents. There are 100 cents in 1 dollar. U.S. coins include:

- Penny = 1¢
- Nickel = 5¢
- Dime = 10¢
- Quarter = 25¢

Practice:

- 1. Add the coins:
 - a. 2 quarters, 3 dimes, 1 nickel = \$_____

 - b. 4 nickels, 10 pennies = \$_____ c. 3 quarters, 2 dimes, 4 pennies = \$_____
- 2. Add the bills:
 - a. \$10 + \$5 + \$1 = \$_____
 - b. \$20 + \$10 + \$10 = \$_____
 - c. \$50 + \$1 + \$1 = \$_____

Answer Key:
1a. \$1.00
1b. \$0.30
1c. \$1.04
2a. \$16
2b. \$40
2c. \$52

Worksheet 11.2: Writing and Reading Money

Concept:

Use a decimal point when writing money:

- \$3.50 = 3 dollars and 50 cents
- \$0.75 = seventy-five cents

Practice:

- 1. Write the amounts as words:
 - a. \$0.50 = _____
 - b. \$12.00 = _____
 - c. \$1.05 = _____
- 2. Write the words as numbers:
 - a. Twenty dollars and ten cents = \$_____
 - b. One hundred five dollars = \$_____
 - c. Seventy-five cents = \$_____

Answer Key:

1a. Fifty cents

- 1b. Twelve dollars
- 1c. One dollar and five cents
- 2a. \$20.10
- 2b. \$105.00
- 2c. \$0.75

Worksheet 11.3: Making Change

Concept:

To make change, subtract the cost from the amount given.

Practice:

- 1. You give \$10 for a \$6.25 item.
- Change = \$_____ 2. You hand over \$20 for something that costs \$14.95. Change = \$____
- 3. You buy a \$2.50 snack with \$5.00. Change = \$_____

- 1. \$3.75
- 2. \$5.05
- 3. \$2.50

Worksheet 11.4: Working with Money (Add/Subtract/Multiply/Divide)

Concept:

Money math uses decimals. Always line up the decimal point.

Practice:

- 1. Add: a. $$1.25 + $2.50 = _$ b. $$15.60 + $9.40 = _$ 2. Subtract: a. $$10.00 - $6.85 = _$ b. $$25.50 - $4.75 = _$ 3. Multiply: a. $3 \times $2.25 = _$ b. $6 \times $1.40 = _$ 4. Divide: a. $$10 \div 4 = _$
 - b. \$36 ÷ 6 = _____

Answer Key: 1a. \$3.75 1b. \$25.00 2a. \$3.15 2b. \$20.75

3a. \$6.75

3b. \$8.40

4a. \$2.50

4b. \$6.00

Worksheet 11.5: Real-Life Money Practice

Concept:

We use money math every day—shopping, tipping, saving, and budgeting.

Practice:

- 1. You buy 3 items: \$4.75, \$2.25, and \$6.00 Total = \$_____
- You get paid \$9.50 an hour and work 5 hours Total earned = \$_____
- 3. You save \$10 each week for 8 weeks Total saved = \$_____
- 4. You go to a store with \$100 and spend \$42.60 How much do you have left? = \$_____

- 1. \$13.00
- 2. \$47.50
- 3. \$80.00
- 4. \$57.40

Chapter 11 Review Worksheet

What You Learned in This Chapter:

- How to count coins and bills
- How to write and read amounts of money
- How to make change
- How to add, subtract, multiply, and divide using money
- How to use money in daily life

Review Questions:

- 1.
 \$1.50 + \$2.75 = \$_____

 2.
 \$20 \$13.25 = \$_____
- 3. 4 × \$3.25 = \$_____
- 4. \$80 ÷ 4 = \$_____
- 5. You earn \$10 per hour for 7 hours. How much do you earn? \$_____

- 1. \$4.25
- 2. \$6.75
- 3. \$13.00
- 4. \$20.00
- 5. \$70.00

Chapter 12: Taking the Weight Off Your Shoulders

What You'll Learn:

In this chapter, you'll learn all about **weight and mass**—how we measure it and when we use different units. You'll learn:

- Common weight units (ounces, pounds, grams, kilograms)
- How to estimate and compare weights
- How to convert between units
- Real-life uses like food labels, shipping, and lifting
- How to choose the best unit for the job

Worksheet 12.1: Understanding Units of Weight

Concept:

In the U.S. system, we use:

- 16 ounces = 1 pound In the **metric system**, we use:
- 1,000 grams = 1 kilogram

Practice:

- 1. Match the unit to the item:
 - a. Apple = \Box ounce \Box pound \Box ton
 - b. Elephant = \Box ounce \Box pound \Box ton
 - c. Bag of sugar = \Box ounce \Box pound \Box gram
- 2. Fill in the blanks:
 - a. 32 ounces = _____ pounds
 - b. 3 pounds = _____ ounces
 - c. 2 kilograms = _____ grams



- 1. a = ounce or pound, b = ton, c = pound or gram
- 2. a.2
 - b. 48
 - c. 2,000

Worksheet 12.2: Estimating and Comparing Weights

H Concept:

Some weights you can estimate from real life. Think about how objects "feel" in your hands.

Practice:

- 1. Which is heavier?
 - a. A soccer ball or a sandwich?
 - b. A pencil or a watermelon? _____
 - c. A chair or a backpack? _____
- 2. Choose the best estimate:
 - a. A banana weighs about:
 - \Box 4 ounces \Box 4 pounds \Box 4 grams
- b. A full backpack weighs:
- \Box 1 lb \Box 10 lbs \Box 100 lbs
- c. A math book weighs:
- \Box 1 oz \Box 2 lbs \Box 20 lbs

- 1a. Soccer ball1b. Watermelon1c. Chair2a. 4 ounces2b. 10 lbs
- 2c. 2 lbs

Worksheet 12.3: Converting Weight Units

Concept:

To convert weight units, use multiplication or division:

- 1 lb = 16 oz
- 1 kg = 1,000 g

Practice:

- 1. Convert:
 - a. 5 lb = ____ oz
 - b. 64 oz = ____ lb
 - c. 3.5 kg = _____ g
- 2. Word problems:
 - a. A recipe needs 32 oz of flour. How many pounds is that?_____
 - b. You buy 2,500 grams of rice. How many kilograms is that?

Answer Key:

1a. 80 1b. 4 1c. 3,500 2a. 2 lb 2b. 2.5 kg

Worksheet 12.4: Weight in Real Life

Concept:

We use weight to mail packages, read food labels, and shop smart.

Practice:

- You mail a package that weighs 3.5 pounds. How many ounces is that?
- 2. A bag of apples is 2.2 kg. How many grams is that?
- A recipe calls for 500 grams of flour. You only have a scale that shows pounds. About how many pounds do you need? (Hint: 1 kg ≈ 2.2 lb) Answer: _____

- 1. 56 oz
- 2. 2,200 g
- 3. About 1.1 lbs

Chapter 12 Review Worksheet

What You Learned in This Chapter:

- U.S. and metric units of weight
- How to convert between ounces, pounds, grams, and kilograms
- When to estimate and compare
- How to use weight for recipes, shipping, and shopping

Review Questions:

- 1. 48 ounces = _____ pounds
- 2. 3 kg = _____ grams
- 3. Which weighs more: 5 lb or 2 kg? (Use 1 kg \approx 2.2 lbs)
- 4. Estimate: A watermelon weighs about:
 □ 3 oz □ 3 lbs □ 30 lbs
- 5. You have 1.5 kg of apples. How many grams is that?

- 1. 3 lb
- 2. 3,000 g
- 3. 5 lb (about 2.27 kg)
- 4. 30 lbs
- 5. 1,500 g

Chapter 12: Taking the Weight Off Your Shoulders

What You'll Learn:

In this chapter, you'll learn all about **weight and mass**—how we measure it and when we use different units. You'll learn:

- Common weight units (ounces, pounds, grams, kilograms)
- How to estimate and compare weights
- How to convert between units
- Real-life uses like food labels, shipping, and lifting
- How to choose the best unit for the job

Worksheet 12.1: Understanding Units of Weight

Concept:

In the U.S. system, we use:

- 16 ounces = 1 pound In the **metric system**, we use:
- 1,000 grams = 1 kilogram

Practice:

- 1. Match the unit to the item:
 - a. Apple = \Box ounce \Box pound \Box ton
 - b. Elephant = \Box ounce \Box pound \Box ton
 - c. Bag of sugar = \Box ounce \Box pound \Box gram
- 2. Fill in the blanks:
 - a. 32 ounces = _____ pounds
 - b. 3 pounds = _____ ounces
 - c. 2 kilograms = _____ grams

- 1. a = ounce or pound, b = ton, c = pound or gram
- 2. a.2
 - b. 48
 - c. 2,000

Worksheet 12.2: Estimating and Comparing Weights

H Concept:

Some weights you can estimate from real life. Think about how objects "feel" in your hands.

Practice:

- 1. Which is heavier?
 - a. A soccer ball or a sandwich?
 - b. A pencil or a watermelon? _____
 - c. A chair or a backpack? _____
- 2. Choose the best estimate:
 - a. A banana weighs about:
 - \Box 4 ounces \Box 4 pounds \Box 4 grams
- b. A full backpack weighs:
- \Box 1 lb \Box 10 lbs \Box 100 lbs
- c. A math book weighs:
- \Box 1 oz \Box 2 lbs \Box 20 lbs

- 1a. Soccer ball1b. Watermelon1c. Chair2a. 4 ounces2b. 10 lbs
- 2c. 2 lbs

Worksheet 12.3: Converting Weight Units

Concept:

To convert weight units, use multiplication or division:

- 1 lb = 16 oz
- 1 kg = 1,000 g

Practice:

- 1. Convert:
 - a. 5 lb = ____ oz
 - b. 64 oz = ____ lb
 - c. 3.5 kg = _____ g
- 2. Word problems:
 - a. A recipe needs 32 oz of flour. How many pounds is that? _____
 - b. You buy 2,500 grams of rice. How many kilograms is that?

Answer Key: 1a. 80 1b. 4 1c. 3,500

2a. 2 lb

2b. 2.5 kg

Worksheet 12.4: Weight in Real Life

Concept:

We use weight to mail packages, read food labels, and shop smart.

Practice:

- You mail a package that weighs 3.5 pounds. How many ounces is that?
- 2. A bag of apples is 2.2 kg. How many grams is that? _____
- A recipe calls for 500 grams of flour. You only have a scale that shows pounds. About how many pounds do you need? (Hint: 1 kg ≈ 2.2 lb) Answer: _____

- 1. 56 oz
- 2. 2,200 g
- 3. About 1.1 lbs

Chapter 12 Review Worksheet

What You Learned in This Chapter:

- U.S. and metric units of weight
- How to convert between ounces, pounds, grams, and kilograms
- When to estimate and compare
- How to use weight for recipes, shipping, and shopping

Review Questions:

- 1. 48 ounces = _____ pounds
- 2. 3 kg = _____ grams
- 3. Which weighs more: 5 lb or 2 kg? (Use 1 kg \approx 2.2 lbs)
- 4. Estimate: A watermelon weighs about:
 □ 3 oz □ 3 lbs □ 30 lbs
- 5. You have 1.5 kg of apples. How many grams is that?

- 1. 3 lb
- 2. 3,000 g
- 3. 5 lb (about 2.27 kg)
- 4. 30 lbs
- 5. 1,500 g

Chapter 13: Feeling the Heat

What You'll Learn:

In this chapter, you'll learn all about **temperature**—how it's measured and how it affects everyday life. You'll learn:

- Common temperature units (Fahrenheit and Celsius)
- How to read a thermometer
- How to convert between °F and °C
- How to compare temperatures
- Real-life uses like weather, cooking, and body temperature

Worksheet 13.1: Understanding Temperature Units

Concept:

There are two main units for temperature:

- Fahrenheit (°F) used mostly in the U.S.
- **Celsius (°C)** used in science and around the world Water freezes at:
 - 32°F or 0°C
 - Water boils at:
 - 212°F or 100°C

Practice:

- 1. Match the situation to the temperature unit:
 - a. Weather report in Florida = \Box °F \Box °C
 - b. Science experiment = \square °F \square °C
 - c. Body temperature in the U.S. = \Box °F \Box °C
- Circle the temperature that is freezing:
 □ 100°F □ 50°F □ 32°F □ 0°C



Worksheet 13.2: Reading a Thermometer

Concept:

A thermometer measures temperature. Read the number closest to the top of the colored line or mercury.

Practice:

- A thermometer shows 20°C. What is the weather like?
 □ Freezing □ Mild □ Boiling
- You read a thermometer at 98.6°F. What are you measuring?
 □ Soup □ Air □ Body temperature
- 3. A meat thermometer shows 165°F. Is the chicken done cooking? $\hfill Yes \hfill No$

- 1. Mild
- 2. Body temperature
- 3. Yes

Worksheet 13.3: Converting °F to °C and °C to °F

Concept:

Use formulas to convert temperature:

- °C = (°F 32) × 5/9
- °F = (°C × 9/5) + 32

Practice:

- 1. Convert to Celsius:
 - a. 98.6°F = ____°C

 - b. 68°F = ____°C c. 32°F = ____°C
- 2. Convert to Fahrenheit:
 - a. 0°C = _____°F
 - b. 25°C = ____°F
 - c. 100°C = ____°F

(Use a calculator if needed)

Answer Key: 1a. 37°C 1b. 20°C 1c. 0°C 2a. 32°F 2b. 77°F 2c. 212°F

Worksheet 13.4: Comparing Temperatures

i Concept:

You can compare temperatures to decide what to wear, whether to cook longer, or how to treat a fever.

Practice:

- 1. Which is warmer?
 - a. 72°F or 18°C = _____ b. 100°F or 38°C = _____
 - c. 0°C or 32°F = _____
- Order from coldest to warmest: 45°F, 12°C, 90°F, 5°C

Answer Key: 1a. About the same 1b. About the same 1c. Equal (freezing point) 2. 5°C, 12°C, 45°F, 90°F

Worksheet 13.5: Temperature in Real Life

H Concept:

We use temperature for weather, cooking, health, and more.

Practice:

- The oven is set to 350°F. What are you probably doing?
 □ Taking a bath □ Baking cookies □ Going outside
- 2. You feel sick and your thermometer reads 101°F. What should you do?
 □ Go to the park □ Drink water and rest □ Wear a coat
- It's 10°C outside. What should you wear?
 □ T-shirt □ Shorts □ Jacket

- 1. Baking cookies
- 2. Drink water and rest
- 3. Jacket

E Chapter 13 Review Worksheet

What You Learned in This Chapter:

- What Fahrenheit and Celsius are
- How to read thermometers
- How to convert between °F and °C
- How to compare and use temperature in daily life

Review Questions:

- 1. 100°C = ____°F
- 2. Normal body temperature is _____°F
- 3. 32°F = ____°C
- 4. You see 0°C on the weather forecast. What might happen outside?
- 5. What's a comfortable indoor room temperature in °F? \Box 40°F \Box 68°F \Box 90°F

- 1. 212°F
- 2. 98.6°F
- 3. 0°C
- 4. Freezing weather
- 5. 68°F

Chapter 14: That's About the Size of It — Measuring Length and Distance What You'll Learn:

In this chapter, you'll learn how to measure how long, wide, or tall something is. You'll learn:

- U.S. and metric units for length
- How to estimate and measure with rulers or tape
- How to convert between inches, feet, and yards
- How to convert between millimeters, centimeters, and meters
- When and how to use length in everyday life (height, furniture, room size, etc.)

Worksheet 14.1: Understanding Length Units

Concept:

In the U.S. system:

- 12 inches = 1 foot
- 3 feet = 1 yard
- 36 inches = 1 yard

In the **metric system**:

- 10 millimeters = 1 centimeter
- 100 centimeters = 1 meter
- 1,000 meters = 1 kilometer

Practice:

- 1. Match the item to the best unit:
 - a. A paperclip = \Box inch \Box foot \Box yard
 - b. A doorway = \Box cm \Box meter \Box mm
 - c. A football field = \Box foot \Box meter \Box yard
- 2. Fill in the blanks:
 - a. 24 inches = _____ feet
 - b. 300 cm = _____ meters
 - c. 2 yards = _____ inches

- 1a. inch
- 1b. meter
- 1c. yard
- 2a. 2
- 2b. 3
- 2c. 72

Worksheet 14.2: Estimating and Comparing Length

Concept:

You don't always need a ruler to measure—you can **estimate** based on what you already know.

Practice:

- 1. Which is longer?

 - a. A bed or a desk? _____ b. A pencil or a baseball bat? _____
 - c. A car or a bike? _____
- 2. Choose the best estimate: a. A spoon is about:
 - \Box 5 inches \Box 5 feet \Box 5 yards
- b. A couch is about:
- \Box 3 feet \Box 6 feet \Box 12 inches
- c. A soccer field is about:
- □ 90 meters □ 90 centimeters □ 90 millimeters

Answer Key:

1a. Bed 1b. Baseball bat 1c. Car 2a. 5 inches 2b. 6 feet 2c. 90 meters

Worksheet 14.3: Converting Length Units

Concept:

To convert length, multiply or divide using standard conversion facts.

Practice:

- 1. Convert U.S. units:
 - a. 5 feet = _____ inches

 - b. 2 yards = _____ feet c. 36 inches = _____ feet
- 2. Convert metric units:
 - a. 1,000 mm = _____ cm
 - b. 250 cm = _____ m
 - c. 5 km = _____ meters

Answer Key: 1a. 60 inches 1b. 6 feet 1c. 3 feet 2a. 100 cm 2b. 2.5 m 2c. 5,000 meters

Worksheet 14.4: Using Length in Real Life

Concept:

Length is used for planning furniture, sewing, construction, and more.

Practice:

- 1. A bookshelf is 6 feet tall. Your wall is 8 feet high. Will it fit? _____
- 2. You're sewing a curtain that needs 2.5 meters of fabric. You have 300 cm. Do you have enough?
- 3. A table is 5 feet long. You want to place two side by side. How long will they be together? _____
- You walk 2 kilometers each day. How many meters do you walk in a week? ______

- 1. Yes
- 2. Yes (300 cm = 3 m)
- 3. 10 feet
- 4. 14,000 meters

Chapter 14 Review Worksheet

What You Learned in This Chapter:

- Common U.S. and metric units for length
- How to estimate and compare measurements
- How to convert between length units
- Real-life uses for measuring length and distance

Review Questions:

- 48 inches = _____ feet
 2.5 meters = _____ centimeters
- 3. Which is longer: 1 yard or 3 feet? _____
- 4. Estimate: A basketball hoop is about: \Box 10 feet \Box 10 inches \Box 10 cm
- 5. You run 5 km each day. How many meters is that in 3 days?

- 1. 4 feet
- 2. 250 cm
- 3. Same length
- 4. 10 feet
- 5. 15,000 meters

Chapter 15: Shaping Up — Basic Geometry

What You'll Learn:

In this chapter, you'll learn about **shapes and space**—the foundation of geometry. You'll explore:

- Basic 2D shapes and 3D solids
- Properties like sides, angles, edges, and faces
- Perimeter and area of simple shapes
- Volume of rectangular prisms
- Real-life applications like building, crafting, and designing

- Worksheet 15.1: Recognizing 2D and 3D Shapes
- Concept:

2D shapes are flat (length and width only).
Examples: square, rectangle, triangle, circle.
3D shapes have depth (length, width, and height).
Examples: cube, sphere, cylinder, cone.

Practice:

- 1. Is it 2D or 3D?
 - a. A pizza = _____
 - b. A can of soup = _____
 - c. A piece of paper = _____
 - d. A basketball = _____
- 2. Match the shape:
 - a. 3 sides = _____
 - b. 4 equal sides and 4 angles = _____
 - c. Round with no sides = _____
 - d. 6 faces, all squares = _____

Answer Key:

1a. 2D

1b. 3D

1c. 2D

1d. 3D

- 2a. Triangle
- 2b. Square
- 2c. Circle
- 2d. Cube

Worksheet 15.2: Counting Sides, Edges, and Faces

H Concept:

Each shape has specific features:

- 2D shapes: count sides and angles
- 3D shapes: count faces, edges, and vertices

Practice:

- 1. Fill in the blanks:

 - a. A square has _____ sides and _____ anglesb. A rectangle has _____ sides and _____ angles
 - c. A cube has _____ faces, _____ edges, and _____ vertices
 - d. A cylinder has _____ circular faces and _____ curved surface

Answer Key: 1a. 4 sides, 4 angles 1b. 4 sides, 4 angles 1c. 6 faces, 12 edges, 8 vertices 1d. 2 circular faces, 1 curved surface
Worksheet 15.3: Perimeter

Concept:

Perimeter is the total distance around a shape. Add up all the side lengths.

Practice:

- 1. Find the perimeter:
 - a. Rectangle: 6 in by 4 in = _____ inches
 - b. Square: 5 cm sides = _____ cm
 - c. Triangle: sides 3 m, 4 m, and 5 m = _____ m
- 2. Draw a rectangle that has a perimeter of 20 cm. Label the sides.

Answer Key:

1a. 20 in

1b. 20 cm

1c. 12 m

2. (Any rectangle such as 6 cm by 4 cm is acceptable)

Worksheet 15.4: Area of Rectangles and Squares

H Concept:

Area is the space inside a 2D shape. Formula:

- Rectangle: *Area = length × width*
- Square: Area = side × side

Practice:

- 1. Find the area:
 - a. Rectangle: 7 m × 3 m = $____ m^2$

 - b. Square: side 4 cm = $___ cm^2$ c. Rectangle: 10 ft × 6 ft = $__ ft^2$
- 2. You want to tile a floor that's 8 ft by 8 ft. What is the area? $____ft^2$

Answer Key: 1a. 21 m² 1b. 16 cm² 1c. 60 ft² 2. 64 ft²

Worksheet 15.5: Volume of Rectangular Prisms

Concept:

Volume is how much space a 3D object takes up. Formula: *Volume = length × width × height*

Practice:

- 1. Find the volume: a. 4 cm × 3 cm × 2 cm = _____ cm³ b. 10 in × 5 in × 2 in = _____ in³ c. 6 ft × 4 ft × 3 ft = _____ ft³
- A box is 2 m long, 1 m wide, and 1.5 m tall. What is its volume? _____ m³

Answer Key: 1a. 24 cm³

1b. 100 in³ 1c. 72 ft³ 2. 3 m³

E Chapter 15 Review Worksheet

What You Learned in This Chapter:

- 2D shapes have length and width
- 3D shapes add height (depth)
- Perimeter = add all sides
- Area = length × width
- Volume = length × width × height

Review Questions:

- 1. How many sides does a triangle have?
- 2. What's the perimeter of a square with 6 in sides?
- 3. What's the area of a rectangle that is $5 \text{ m} \times 2 \text{ m}$?
- 4. A cube has how many faces?
- 5. Find the volume of a box: 3 ft \times 2 ft \times 2 ft

- 1. 3
- 2. 24 in
- 3. 10 m²
- 4. 6
- 5. 12 ft³

Chapter 16: Fractions and Decimals

What You'll Learn:

This chapter covers how to work with **fractions** and **decimals**—two ways of showing parts of a whole. You'll learn:

- What fractions and decimals are
- How to compare and simplify fractions
- How to add, subtract, multiply, and divide fractions and decimals
- How to convert between fractions and decimals
- Everyday uses like measuring, shopping, and cooking

Worksheet 16.1: Understanding Fractions

Concept:

A **fraction** has two parts:

- Top number = numerator (how many parts you have)
- Bottom number = denominator (how many parts make a whole)

Example: 3/4 means 3 parts out of 4 total.

Practice:

- 1. Identify the numerator and denominator:
 - a. 5/8 \rightarrow Numerator: ____ Denominator: ____
 - b. $2/3 \rightarrow$ Numerator: ____ Denominator: ____
 - c. 9/10 \rightarrow Numerator: ____ Denominator: ____
- 2. Color 3/4 of a rectangle. (Draw one if printing)
- 3. Which is larger?
 - a. 1/2 or 3/4
 - b. 2/3 or 1/4
 - c. 5/8 or 3/8



Worksheet 16.2: Simplifying and Comparing Fractions

Concept:

To **simplify** a fraction, divide the top and bottom by the same number.

Practice:

- 1. Simplify the fractions:
 - a. 4/8 = _____
 - b. 6/9 = _____
 - c. 10/15 = _____
- Put these in order from least to greatest: 1/2, 1/4, 3/4

Answer Key:

1a. 1/2 1b. 2/3 1c. 2/3 2. 1/4, 1/2, 3/4 Worksheet 16.3: Adding and Subtracting Fractions

Concept:

To add or subtract fractions with the same denominator, just add or subtract the numerators.

Practice:

Add:

 a. 1/4 + 2/4 = ______
 b. 3/8 + 2/8 = ______
 c. 5/10 + 3/10 = ______

 Subtract:

 a. 3/4 - 1/4 = ______
 b. 7/10 - 4/10 = _______
 c. 5/6 - 2/6 = ______

Answer Key: 1a. 3/4 1b. 5/8 1c. 8/10 = 4/5 2a. 2/4 = 1/2 2b. 3/10 2c. 3/6 = 1/2

Worksheet 16.4: Multiplying and Dividing Fractions

Concept:

- To **multiply**, multiply the numerators and the denominators.
- To **divide**, flip the second fraction (reciprocal) and multiply.

Practice:



c. 5/6 ÷ 1/3 = _____

Answer Key:

1a. 3/8 1b. 6/15 = 2/5 1c. 10/18 = 5/9 2a. 2 2b. 9/8 2c. 5/2

Worksheet 16.5: Understanding Decimals

Concept:

A **decimal** is another way to show a part of a whole, based on 10s. Example:

- 0.5 = 5 tenths
- 0.25 = 25 hundredths

Practice:

- 1. Circle the larger number:
 - a. 0.3 or 0.7
 - b. 0.65 or 0.56
 - c. 0.9 or 0.09
- 2. Write as decimals:
 - a. 3 tenths = _____
 - b. 7 hundredths = _____
 - c. 25 hundredths = _____

Answer Key:

1a. 0.7 1b. 0.65 1c. 0.9 2a. 0.3 2b. 0.07 2c. 0.25 Worksheet 16.6: Adding and Subtracting Decimals

i Concept:

Line up the **decimal points** before adding or subtracting.

Practice:

Answer Key:

1a. 0.7 1b. 4.00 1c. 4.50 2a. 0.5 2b. 3.75 2c. 9.75

Worksheet 16.7: Converting Fractions and Decimals

Concept:

You can **convert** between fractions and decimals:

- 1/2 = 0.5
- 3/4 = 0.75

Divide the numerator by the denominator.

Practice:

- 1. Convert fractions to decimals:
 - a. 1/4 = _____
 - b. 3/5 = _____
 - c. 2/3 = _____ (round to 2 decimal places)
- 2. Convert decimals to fractions:
 - a. 0.25 = _____
 - b. 0.6 = _____
 - c. 0.75 = _____

Answer Key: 1a. 0.25 1b. 0.6 1c. 0.67

- 1C. U.6
- 2a. 1/4
- 2b. 3/5
- 2c. 3/4

Chapter 16 Review Worksheet

What You Learned in This Chapter:

- Fractions and decimals show parts of a whole
- You can add, subtract, multiply, and divide both
- You can convert between them
- These are used every day in recipes, money, and measuring

Review Questions:

- 1. 1/2 + 1/4 = _____
- 2. 0.75 0.25 = _____
- 3. 2/3 × 3/4 = _____
- 4. 0.6 as a fraction = ____
- 5. Which is greater: 4/5 or 0.7?

- 1. 3/4
- 2. 0.5
- 3. 6/12 = 1/2
- 4. 3/5
- 5. 4/5

Chapter 17: Percent Problems

What You'll Learn:

This chapter helps you understand and use **percents**—a special way to express parts of a whole out of 100. You'll learn:

- What percents mean
- How to convert between percents, fractions, and decimals
- How to find a percent of a number
- How to solve real-life percent problems (like sales, tips, tax, and discounts)

Worksheet 17.1: Understanding Percents

i Concept:

Percent means "per 100."

Examples:

- 25% = 25 out of 100
- 100% = the whole thing
- 50% = half

Practice:

- 1. Write each percent as a fraction and decimal:
 - a. 25% = _____/100 = _____
 - b. 50% = ____ /100 = ____ c. 10% = ____ /100 = ____
- 2. Write each decimal as a percent:

- b. 0.75 = ____%
- c. 0.01 = ____%

Answer Key:

1a. 25/100 = 0.25 1b. 50/100 = 0.50 1c. 10/100 = 0.102a. 20% 2b. 75% 2c. 1%

B Worksheet 17.2: Finding a Percent of a Number

Concept:

To find a percent of a number: **Multiply the number by the percent as a decimal.** Example: 25% of $40 = 0.25 \times 40 = 10$

Practice:

- 1. Find the percent of each number:
 - a. 20% of 50 = _____
 - b. 10% of 90 = _____
 - c. 75% of 60 = _____
 - d. 5% of 80 = _____
 - e. 50% of 32 = _____

Answer Key:
1a. 10
1b. 9
1c. 45
1d. 4
1e. 16

Worksheet 17.3: Real-Life Percent Word Problems

i Concept:

Percents are used for sales, tips, tax, and discounts.

Practice:

- 1. A \$40 item is 25% off. How much is the discount? ______ What is the sale price? _____
- 2. You tip 20% on a \$30 meal. How much is the tip? _____ What's the total bill? _____
- 3. A \$15 shirt has 7% sales tax. How much tax is added? _____ Total cost? _____
- 4. You scored 18 out of 20 questions correct. What percent is that?

- 1. $$10 \text{ off} \rightarrow 30 sale price
- 2. $6 \text{ tip} \rightarrow 36 \text{ total}$
- 3. $1.05 \text{ tax} \rightarrow 16.05 \text{ total}$
- 4. 90%

Worksheet 17.4: Estimating Percents

Concept:

Quick estimating tricks can help you mentally figure out discounts and tips.

Practice:

- 1. Estimate 10% of \$80 = ____ Then double it to estimate 20% = _____
- A \$75 item is 25% off. What's 25% close to? Hint: Half of half = _____
- 3. A \$50 bill with a 15% tip—use 10% + 5% trick: 10% = ______
 5% = ______
 Total tip = _____

- 1. \$8,\$16
- 2. \$18.75 (approx.)
- 3. 10% = \$5, 5% = \$2.50 → \$7.50 tip

Worksheet 17.5: Converting Between Forms

Concept:

You can switch between percents, decimals, and fractions to solve different types of problems.

Practice:

- 1. Convert to percent:
 - a. 1/2 = ____%
 - b. 1/4 = ____% c. 3/5 = ___%
- 2. Convert to decimal:
 - a. 70% = _____
 - b. 8% = _____
 - c. 12.5% = _____

- 1a. 50%
- 1b. 25%
- 1c. 60%
- 2a. 0.7
- 2b. 0.08
- 2c. 0.125

Chapter 17 Review Worksheet

What You Learned in This Chapter:

- Percents are out of 100
- You can convert between percents, decimals, and fractions
- You can find a percent of a number
- Percents are useful for shopping, tips, grades, and taxes

Review Questions:

- 1. 25% of 80 = _____
- 2. 0.2 = ____%
- 3. \$60 dinner + 20% tip = ____
- 4. A \$100 item is 40% off. What is the sale price?
- 5. What is 1/5 as a percent?

- 1. 20
- 2. 20%
- 3. $12 \text{ tip} \rightarrow 72 \text{ total}$
- 4. \$60
- 5. 20%

Chapter 18: Balancing Your Checkbook

What You'll Learn:

In this chapter, you'll learn how to **track spending, deposits, and balances** using a checkbook register or similar tool (like a spreadsheet or app). You'll practice:

- Recording deposits and withdrawals
- Calculating running balances
- Identifying math mistakes
- Understanding the importance of keeping accurate financial records

Worksheet 18.1: Understanding a Check Register

Concept:

A check register helps you track your **starting balance**, **money you spend**, and **money you add**. Keeping track means you don't bounce checks or overspend. Here's a sample register format:

Date	Description	Payment (-)	Deposit (+)	Balance
May 1	Starting Balance			\$200.00
May 3	Groceries	\$45.00		\$155.00
May 5	Paycheck		\$120.00	\$275.00

Practice:

Fill in the missing balances:

Date	Description	Payment (-)	Deposit (+)	Balance
June 1	Starting Balance			\$300.00
June 2	Gas	\$40.00		
June 4	Paycheck		\$150.00	
June 5	Coffee Shop	\$5.00		
June 6	Birthday Gift	\$25.00		

- June 2: \$260.00
- June 4: \$410.00
- June 5: \$405.00
- June 6: \$380.00

Worksheet 18.2: Recording and Catching Mistakes

Concept:

If you make a math mistake in your check register, your balance will be off. Practicing accuracy is key!

Practice:

Here's a register. Find the mistake and correct the balance:

Date Description	Payment (-)	Deposit (+)	Balance
July 1 Starting Balance			\$500.00
July 2 Rent	\$300.00		\$200.00
July 3 Groceries	\$60.00		\$240.00 🗙
July 5 Refund		\$20.00	\$260.00

- July 3 balance should be **\$140.00**, not \$240.00
- Corrected line: July 3 → \$500 - \$300 - \$60 = \$140.00 July 5 → \$140 + \$20 = \$160.00

Worksheet 18.3: Real-Life Register Challenge

Concept:

Keep a log of **every transaction** to know your balance and avoid overdrafts.

Practice:

Use the register below to fill in the entire balance column.

Date	Description	Payment (-)	Deposit (+)	Balance
Aug 1	Starting Balance			\$225.00
Aug 2	Cell Phone Bill	\$45.00		
Aug 3	Paycheck		\$125.00	
Aug 4	Fast Food	\$12.00		
Aug 5	Grocery Store	\$60.00		
Aug 6	Returned Item		\$10.00	

- Aug 2: \$180.00
- Aug 3: \$305.00
- Aug 4: \$293.00
- Aug 5: \$233.00
- Aug 6: \$243.00

E Chapter 18 Review Worksheet

What You Learned in This Chapter:

- A check register tracks your income and expenses
- You must subtract payments and add deposits
- Mistakes can cause overdraft fees or bounced checks
- Staying organized helps you manage money wisely

Review Questions:

- 1. You start with \$100. Spend \$25, then deposit \$40. What's your new balance?
- 2. You earn \$150 and spend \$75. How much is left? _
- 3. A wrong entry says you have \$350, but you only have \$250. What kind of problem could happen?
- 4. Why should you always double-check your register?

- 1. \$115
- 2. \$75
- 3. Overdraft or bounced payment
- 4. To avoid spending more than you have and catch mistakes

Chapter 19: Time Payments and Interest

What You'll Learn:

In this chapter, you'll learn how interest works and how to calculate **time payments** on items like furniture, cars, or loans. You'll understand:

- What simple interest is
- How to calculate monthly payments
- How much interest you'll pay over time
- How to compare loans and payment plans

Worksheet 19.1: Understanding Simple Interest

Concept:

Simple Interest Formula:

$I = P \times R \times T$

Where:

- / = Interest
- *P* = Principal (the amount borrowed)
- *R* = Annual interest rate (in decimal form)
- *T* = Time (in years)

Practice:

- 1. Find the interest:
 - a. \$1,000 at 5% for 2 years = _____
 - b. \$500 at 7% for 3 years = _____
 - c. \$2,000 at 4% for 1 year = _____

Answer Key: 1a. \$1000 × 0.05 × 2 = \$100 1b. \$500 × 0.07 × 3 = \$105 1c. \$2,000 × 0.04 × 1 = \$80

- Worksheet 19.2: Total Cost with Interest
- **i** Concept:

Total Repayment = Principal + Interest

Practice:

- You borrow \$800 at 6% interest for 2 years. What is the total amount you will repay?
- You borrow \$2,500 at 5% interest for 3 years. How much interest will you pay? _____
 What's the total? _____

- 1. Interest = $\$96 \rightarrow Total = \896
- 2. Interest = $$375 \rightarrow Total = $2,875$

Worksheet 19.3: Monthly Payments

Concept:

To find monthly payments, divide the total repayment by the number of months.

Practice:

- You borrow \$600 for 1 year at 10% interest. What's the interest? _____ Total to repay? _____ Monthly payment (12 months)? _____
- Loan: \$1,200 at 8% for 2 years.
 What is the total repayment? _____
 Monthly payment (24 months)? _____

- 1. Interest = $$60 \rightarrow Total = $660 \rightarrow Monthly = 55
- 2. Interest = $\$192 \rightarrow Total = \$1,392 \rightarrow Monthly = \58

Worksheet 19.4: Comparing Payment Plans

Concept:

One price may look cheaper, but interest can make the final cost higher. Always compare!

Practice:

- 1. Which is the better deal?
- Option A: Pay \$500 now
- Option B: Pay \$100/month for 6 months (no interest)
- 2. Which is better?
- Option A: Borrow \$1,000 at 6% for 1 year
- Option B: Borrow \$1,000 at 9% for 1 year

- 1. $100 \times 6 = 600 \rightarrow 0$ Option A is cheaper
- 2. Option A: \$60 interest \rightarrow Option B: \$90 interest \rightarrow Option A is better

Worksheet 19.5: Real-Life Interest Challenge

Concept:

Loans can cost a lot over time—always check total repayment, not just monthly cost.

Practice:

- You finance a couch for \$1,200 with 12% interest over 3 years. How much interest will you pay? _____
 What's the monthly payment? _____
- 2. You want to buy a laptop with a store payment plan:
- \$60/month for 12 months
- Cash price: \$650 How much extra will you pay using the payment plan? _____

- 1. Interest = $$432 \rightarrow Total = $1,632 \rightarrow Monthly = 45.33
- 2. $\$60 \times 12 = \$720 \rightarrow \text{Extra cost} = \70

E Chapter 19 Review Worksheet

What You Learned in This Chapter:

- Simple interest is calculated with I = P × R × T
- Loans cost more than the original amount
- Monthly payments help you budget, but may cost more in the long run
- Comparing plans helps you make smart choices

Review Questions:

- 1. You borrow \$1,000 at 5% for 3 years. How much interest?
- 2. Total repayment on \$800 borrowed for 2 years at 6%? _____
- 3. Monthly payment for \$600 total over 12 months? _____
- 4. Why is it important to compare interest rates?
- 5. What does "P" stand for in the interest formula?

- 1. \$150
- 2. \$896
- 3. \$50
- 4. Lower rates save you money
- 5. Principal (amount borrowed)

Chapter 20: Credit Cards

What You'll Learn:

In this chapter, you'll learn how credit cards work—and how to use them wisely. You'll understand:

- What a credit card is and how it differs from debit
- What interest rates and minimum payments mean
- How credit card debt grows if not paid off
- How to read a credit card statement
- How to calculate total cost if you carry a balance

Worksheet 20.1: Understanding Credit Cards

i Concept:

A credit card lets you **borrow money** to make purchases. You **must pay it back**, usually with **interest** if not paid in full.

Practice:

1. Check the correct box:

Statement

True False

A credit card is free money

You pay interest if you don't pay in full

A debit card spends your own money

Minimum payment means you're debt-free

Credit cards can affect your credit score

2. Why might it be dangerous to only pay the minimum on a credit card?

- 1.
- False
- True
- True
- False
- True
- 2. Because interest keeps building, and you stay in debt longer.

Worksheet 20.2: Interest on a Credit Card

H Concept:

If you don't pay off the full amount, the credit card company **charges interest**—usually monthly.

Practice:

- You owe \$1,000 on a credit card with 20% annual interest. How much interest in one year? ______ How much in one month (about)? _____
- 2. You carry a balance of \$500 for 6 months at 18%. Estimate the interest you'll pay. _____

- 1. $200/year \rightarrow about 16.67/month$
- 2. Estimate: \$45 (500 × 0.18 × 0.5 = 45)

Worksheet 20.3: Minimum Payments

i Concept:

Minimum payments are small required payments, but they make debt last longer and cost more.

Practice:

- You owe \$1,000. The minimum payment is \$25. How many months would it take to pay off if you only paid that? (Estimate without interest first) ______ Now, with 20% interest per year, will it take longer or shorter?
- You pay \$25/month on \$1,000 at 20%.
 Use an online calculator or estimate: Will it take more than 4 years to pay it off?

- 40 months without interest With interest = much longer
- 2. Yes, over 5 years and over \$500 in interest in many cases
Worksheet 20.4: Reading a Credit Card Statement

Concept:

A credit card bill shows your balance, purchases, minimum due, and interest charges.

Practice:

Statement Info Value

Previous Balance \$850.00

New Purchases \$120.00

Payments Made \$200.00

Interest Charged \$15.00

New Balance = ? _____

- 1. What is the new balance? _
- 2. What is the total amount charged this cycle? _____
- 3. If the minimum payment is \$35, what happens if you only pay that?

- 1. \$850 + \$120 \$200 + \$15 **= \$785**
- 2. \$120 + \$15 = **\$135**
- 3. Balance goes down slowly, and more interest gets charged

Worksheet 20.5: Smart Credit Habits

Concept:

Credit isn't bad—but use it smart:

- Pay in full if you can
- Avoid interest
- Only charge what you can repay
- Check your statements

Practice:

- 1. Write 3 smart credit rules for yourself:
- •
- •
- 2. You're offered a new credit card with 29% interest. What would you want to know before accepting?

Sample Answers:

1.

• Pay in full

- Don't charge what I can't afford
- Watch for fees and interest
- 2. What the annual fee is, if there's a better rate, and what the grace period is

Chapter 20 Review Worksheet

What You Learned in This Chapter:

- Credit cards let you borrow, but come with high interest
- Paying only the minimum leads to long-term debt
- Always read your statements and know your balance
- Use credit wisely and plan to repay quickly

Review Questions:

- 1. What's the danger of paying only the minimum?
- 2. What's one way to avoid credit card interest?
- 3. If your balance is \$600 and interest is 24%, what's your yearly interest?
- 4. What's the difference between debit and credit cards?
- 5. Why is it important to read your statement?

- 1. You stay in debt longer and pay more interest
- 2. Pay the full balance each month
- 3. \$144
- 4. Debit uses your own money, credit is borrowed
- 5. To catch errors and know what you owe

Chapter 21: Mortgages

What You'll Learn:

In this chapter, you'll learn how **home loans (mortgages)** work. You'll understand:

- What a mortgage is and how it's structured
- What principal, interest, and escrow mean
- How monthly payments are calculated
- How to estimate the total cost of a mortgage
- What terms like "amortization" and "down payment" mean

Worksheet 21.1: What Is a Mortgage?

i Concept:

A **mortgage** is a loan you take out to buy a home. You usually repay it over **15 to 30 years**, with interest.

Practice:

1. Match the mortgage terms to their meanings:

Term	Meaning
Principal	A. Monthly property tax and insurance payments
Interest	B. The original amount borrowed
Escrow	C. Money you pay regularly for borrowing

Term D. How long you'll repay the loan

Down Payment E. Cash paid upfront before taking the loan

- Principal = B
- Interest = C
- Escrow = A
- Term = D
- Down Payment = E

Worksheet 21.2: Monthly Mortgage Payments

H Concept:

Monthly mortgage payments usually include:

- Principal
- Interest
- Taxes and Insurance (Escrow)

A basic formula for a rough estimate is:

Monthly Payment ≈ (Loan Amount × Rate × (1 + Rate)^N) ÷ ((1 + Rate)^N - 1) Where Rate = monthly interest rate and N = number of months But we'll use simplified examples here.

Practice:

- 1. You borrow \$200,000 at 5% interest for 30 years. Estimated monthly payment (interest only): _____
- Estimate your total interest paid over 30 years: (Hint: Monthly interest = \$200,000 × 0.05 ÷ 12 = ~\$833.33) \$833.33 × 12 × 30 = _____

- 1. \$833.33/month (interest only—not full payment)
- 2. \$833.33 × 360 = **\$299,998.80**

Worksheet 21.3: Understanding Escrow

Concept:

Escrow is money collected monthly to cover property taxes and homeowners insurance.

Practice:

- Your escrow is \$300/month. How much will you pay in escrow for the year? _____
- 2. If your monthly mortgage is \$1,200 and escrow is \$300: How much is going toward principal/interest?

- 1. \$3,600/year
- 2. \$1,200 \$300 = **\$900** toward principal and interest

Worksheet 21.4: Total Cost of a Home

i Concept:

The total cost of a home = Down payment + Total loan repayment (with interest)

Practice:

- Home price: \$250,000
 Down payment: \$50,000
 Loan: \$200,000
 Total repayment with interest: \$350,000
 What is the total cost of the home? ______
- If you buy a \$180,000 home with 10% down: How much is your down payment? _____
 What's the loan amount? _____

- 1. \$50,000 + \$350,000 = **\$400,000**
- 2. \$18,000 down, \$162,000 loan

Worksheet 21.5: Mortgage Planning Challenge

Concept:

Buying a home is a **long-term financial decision**. It's important to plan and know what you can afford.

Practice:

- You want to buy a home for \$200,000.
 You can put down \$20,000. You get a 4% loan for 30 years.
 Monthly payment is \$860.
 How much will you pay over the life of the loan? _____
- 2. What should you check before deciding on a mortgage? List two smart steps.

- 1. \$860 × 12 × 30 = **\$309,600**
- 2. Sample answers:
- Check the total interest paid
- Compare mortgage rates
- Make sure the monthly payment fits your budget

E Chapter 21 Review Worksheet

What You Learned in This Chapter:

- A mortgage is a long-term loan for buying a house
- You pay principal, interest, and escrow (taxes/insurance)
- The total cost of a home includes loan interest over time
- Planning ahead helps you avoid financial stress

Review Questions:

- 1. What is the "principal" in a mortgage?
- 2. What does escrow usually cover?
- 3. What happens if you borrow \$150,000 at 5% for 30 years? Estimate total interest.
- 4. Why is it important to know your monthly payment before buying?
- 5. What is a down payment?

- 1. The amount you borrow
- 2. Property taxes and homeowners insurance
- 3. ~\$125,000-\$150,000 in interest
- 4. To make sure you can afford the home
- 5. Money paid upfront before the loan

Chapter 22: Taxes and Paychecks

What You'll Learn:

In this chapter, you'll learn how income is taxed and how to read a paycheck. You'll understand:

- What gross pay and net pay mean
- What types of taxes are withheld from your paycheck
- What W-4 and W-2 forms are
- How to estimate your take-home pay
- Why understanding your paycheck helps with budgeting

Worksheet 22.1: Understanding Your Paycheck

Concept:

Gross Pay = the total you earn before taxes **Net Pay** = the amount you take home after taxes and deductions

Practice:

1. Match the terms:

Term Meaning

Gross Pay A. Take-home pay after deductions

Net Pay B. Money before any taxes are taken out

Withholding C. Money your employer sends to the IRS

Deduction D. Amount taken out for taxes or benefits

- Gross Pay = B
- Net Pay = A
- Withholding = C
- Deduction = D

- Worksheet 22.2: What's Taken Out?
- Concept:

Your paycheck might include deductions for:

- Federal income tax
- Social Security and Medicare (FICA)
- State income tax (if applicable)
- Insurance or retirement contributions

Practice:

Look at this sample paycheck:

- Gross Pay: \$600
- Federal tax: \$60
- Social Security: \$37.20
- Medicare: \$8.70
- State tax: \$18
- Retirement: \$15

What is the total taken out? _____ What is the net pay? _____

Answer Key:
 Total deductions: \$60 + \$37.20 + \$8.70 + \$18 + \$15 = \$138.90
 Net Pay: \$600 - \$138.90 = \$461.10

Worksheet 22.3: Estimating Take-Home Pay

Concept:

You can estimate your net pay by subtracting about 20–30% of gross pay for taxes.

Practice:

- 1. If you earn \$500/week, estimate your take-home pay (25% taxes): ______
- 2. Gross Pay: \$1,200/month Estimate net pay if 30% is taken out: _____
- Gross Pay: \$18/hour, 40 hours/week
 Weekly gross pay = _____
 Estimate take-home (25% tax): _____



- 1. \$500 25% = **\$375**
- 2. \$1,200 30% = **\$840**
- 3. \$18 × 40 = \$720 gross → \$720 25% = **\$540**

Worksheet 22.4: Forms You'll See

Concept:

- W-4: Tells your employer how much to withhold
- W-2: Shows your yearly earnings and taxes for filing

Practice:

- 1. What is the W-4 form used for?
- 2. When do you receive your W-2?
- 3. Who do you give your W-4 to?

Sample Answers:

- 1. It tells your employer how much tax to withhold
- 2. In January, for the previous year
- 3. Your employer (usually when hired)

Worksheet 22.5: Budgeting Your Paycheck

Concept:

Knowing your net pay helps you **budget realistically**—so you don't overspend.

Practice:

You earn \$2,400/month net pay. Create a simple budget:

Expense Category	Amount
Rent	\$900
Groceries	
Gas/Transportation	
Savings	
Fun/Extras	
Make sure your tota	l is \$2,400 or less.

Sample Budget (varies): Groceries: \$400 Gas: \$300 Savings: \$400 Fun: \$400 Total = \$2,400

Chapter 22 Review Worksheet

What You Learned in This Chapter:

- Gross pay is what you earn before deductions
- Net pay is what you actually take home
- Taxes help fund government programs like Social Security
- W-4 tells employers how much to withhold
- Budgeting your take-home pay helps you live within your means

Review Questions:

- 1. If your gross pay is \$700 and taxes are 25%, what is your net pay?
- 2. What are two common paycheck deductions?
- 3. What's the purpose of the W-2 form?
- 4. Why should you care about your net pay more than your gross?
- 5. What percentage is a safe estimate for taxes?

- 1. \$525
- 2. Federal tax, Social Security
- 3. To report yearly earnings for tax filing
- 4. It's what you actually receive to spend or save
- 5. 25-30%

Chapter 23: Simple Investment Math

What You'll Learn:

In this chapter, you'll learn how basic investments work and how to calculate growth over time. You'll understand:

- What investing means and why people do it
- The difference between saving and investing
- How compound interest works
- How to estimate how long it takes for money to double
- Simple ways to start understanding the stock market

Worksheet 23.1: Saving vs. Investing

Concept:

- **Saving** = putting money aside, usually in a bank account
- Investing = using money to grow wealth through things like stocks, real estate, or mutual funds
- Investing involves risk, but can lead to higher returns

Practice:

1. Match each example with "Saving" or "Investing":

Action

Saving or Investing?

Putting money in a savings account

Buying stocks in a company

Using a retirement account like a 401(k)

Stashing cash under your mattress

Buying real estate to rent out

- Savings
- Investing
- Investing
- Saving
- Investing

Worksheet 23.2: Understanding Compound Interest

Concept:

Compound interest is when you earn interest on both your **original money** and the **interest you've already earned**.

Formula (simplified):

 $A = P \times (1 + r)^{t}$

Where:

- A = Amount
- P = Principal (starting money)
- r = Interest rate (as a decimal)
- t = Time (in years)

Practice:

- You invest \$1,000 at 5% interest for 2 years. Use compound interest: A = 1000 × (1 + 0.05)² = _____
- 2. You invest \$500 at 10% interest for 3 years.

A = _____



- 1. A ≈ 1000 × 1.1025 = **\$1,102.50**
- 2. A ≈ 500 × 1.331 = **\$665.50**

Worksheet 23.3: Rule of 72

Concept:

The **Rule of 72** estimates how long it will take for your money to double at a given interest rate: **72** ÷ **Interest Rate = Years to Double**

Practice:

- 1. At 6% interest, money will double in _____ years
- 2. At 12% interest, money will double in _____ years
- 3. If your goal is to double money in 9 years, what interest rate do you need?

- 1. 72 ÷ 6 = **12 years**
- 2. 72 ÷ 12 = 6 years
- 3. 72 ÷ 9 = **8%**

Worksheet 23.4: Investment Growth Over Time

Concept:

Time and patience make investing powerful. Even small investments grow big with **time + compound interest**.

Practice:

You invest \$100/month starting at age 20. Average return is 8% per year.

- Estimate total savings by age 30: (10 years × 12 months = 120 months) Use calculator or estimate with growth:
- 2. If you wait until age 30 to start saving the same way until age 60, do you end up with more or less?

Sample Answer:

- 1. Over \$18,000-\$20,000 with interest
- 2. Less-because early investing gives compound interest more time to grow

Worksheet 23.5: Investing in Stocks

Concept:

Stocks are shares of ownership in a company. Their value can **rise or fall**, but long-term investing often leads to gains.

Practice:

- 1. You buy 10 shares at \$15 each. How much do you invest? _____
- 2. The stock rises to \$25 per share. What is it worth now? ______
- 3. What is your profit if you sell? _____

- 1. \$150
- 2. 10 × \$25 = **\$250**
- 3. \$250 \$150 = **\$100 profit**

E Chapter 23 Review Worksheet

What You Learned in This Chapter:

- Investing grows money over time
- Compound interest builds faster than simple interest
- The Rule of 72 is a handy shortcut
- Starting young helps your money grow more
- Stocks can grow in value, but also carry risk

Review Questions:

- 1. What's one difference between saving and investing?
- 2. How does compound interest work?
- 3. How long will it take money to double at 9% interest (using Rule of 72)?
- 4. What happens if you wait to start investing until you're older?
- 5. You invest \$200 at 7% interest. What will it be worth in 2 years?

- 1. Investing can grow faster but has risk
- 2. Interest earns interest
- 3. 72 ÷ 9 = 8 years
- 4. You miss out on years of growth
- 5. About \$200 × 1.1449 = **\$228.98**

Chapter 24: Percentages

What You'll Learn:

In this chapter, you'll learn how to use **percentages** in real-life situations. You'll understand:

- What percentages represent
- How to convert between fractions, decimals, and percents
- How to find a percent of a number
- How to calculate discounts, sales tax, tips, and interest
- How to solve problems that involve percent increase or decrease

Worksheet 24.1: What Is a Percent?

Concept:

Percent means "per hundred."

- 50% means 50 out of 100
- 100% means all
- 25% = 25/100 = 0.25

Practice: Convert between forms

Percent Fraction		Decimal
50%		
25%		
10%		
75%		
5%		

Answer Key: Percent Fraction Decimal

50%	1/2	0.50
25%	1/4	0.25
10%	1/10	0.10
75%	3/4	0.75
5%	1/20	0.05

Worksheet 24.2: Finding a Percent of a Number

H Concept:

To find a percent of a number: **Percent × Whole = Part** (Use decimal form of percent)

Practice:

- 1. What is 20% of 150? _____
- 2. What is 10% of 80? _____
- 3. What is 25% of 60? _____
- 4. What is 5% of 200? _____

- 1. 0.20 × 150 = **30**
- 2. 0.10 × 80 = **8**
- 3. 0.25 × 60 = **15**
- 4. 0.05 × 200 = **10**

Worksheet 24.3: Real-Life Percent – Sales & Tax

Concept:

To find the sale price: Original – (Discount% × Original) = Sale Price To find sales tax: Price × Tax% = Tax Amount

Practice:

- 1. A shirt is \$40, 25% off. What is the sale price?
- 2. A laptop costs \$500, plus 6% sales tax. What is the total cost? _____
- 3. A \$60 item is 15% off. What's the discount?

- 1. $$40 (0.25 \times $40) = 30
- 2. \$500 + (0.06 × \$500) = \$530
- 3. 0.15 × \$60 = **\$9 discount**

Worksheet 24.4: Tips and Interest

Concept:

Tips and interest are also percentages!

- Tip: 15%–20% of total bill
- Simple interest: Principal × Rate × Time

Practice:

- 1. A meal is \$36. You tip 20%. How much is the tip?
- 2. You earn 5% simple interest on \$1,000 for 2 years. What's the interest?
- 3. Your bill is \$48. You leave an 18% tip. What's the total?

- 1. \$36 × 0.20 = **\$7.20**
- 2. \$1,000 × 0.05 × 2 = **\$100**
- 3. $$48 \times 0.18 = $8.64 \rightarrow \text{Total} = 56.64

Worksheet 24.5: Percent Increase and Decrease

- **H** Concept:
 - Increase = New Old
 - Percent Change = (Change ÷ Original) × 100%

Practice:

- 1. A price goes from \$80 to \$100. What is the % increase? _____
- 2. A \$60 item is now \$45. What is the % decrease? _____
- 3. Your score improves from 70 to 84. What is the percent change?_____

- 1. Change = $20 \rightarrow 20 \div 80 = 0.25 \rightarrow 25\%$ increase
- 2. Change = $15 \rightarrow 15 \div 60 = 0.25 \rightarrow 25\%$ decrease
- 3. Change = $14 \rightarrow 14 \div 70 = 0.20 \rightarrow 20\%$ increase

E Chapter 24 Review Worksheet

What You Learned in This Chapter:

- Percent means "per hundred"
- You can convert between percents, fractions, and decimals
- Finding a percent of a number helps with shopping, tax, tips, and more
- Percent change shows increase or decrease
- These skills are useful in almost every money situation

Review Questions:

- 1. What is 30% of 90?
- 2. What is the sale price of a \$60 item with 10% off?
- 3. What is a 15% tip on \$50?
- 4. A price increases from \$40 to \$50. What is the percent increase?
- 5. Convert 0.2 to a percent.

- 1. 0.30 × 90 = **27**
- 2. $60 (0.10 \times 60) = 54
- 3. \$50 × 0.15 = **\$7.50**
- 4. Change = $10 \rightarrow 10 \div 40 = 0.25 \rightarrow 25\%$
- 5. **20%**

Chapter 25: Sales and Trends

What You'll Learn:

In this chapter, you'll learn how to read and analyze basic sales data and trends. You'll understand:

- How to calculate percentage increase/decrease in sales
- How to read bar graphs and line graphs
- What trends mean in business or financial reports
- How to interpret simple data sets
- How to use averages to understand performance

Worksheet 25.1: Reading Sales Data

Concept:

Sales numbers can show growth or decline. One way to measure change is with **percent increase or decrease**:

Percent Change = (New – Old) ÷ Old × 100%

Practice:

- A company made \$10,000 last month and \$12,500 this month. What is the percent increase?
- A store's sales dropped from \$8,000 to \$6,000.
 What is the percent decrease? _____
- 3. A product earned \$15,000 last year and \$19,500 this year. What is the percent increase?

- 1. (12,500 − 10,000) ÷ 10,000 = 0.25 **> 25% increase**
- 2. (8,000 6,000) ÷ 8,000 = 0.25 → **25% decrease**
- 3. (19,500 − 15,000) ÷ 15,000 = 0.30 → **30% increase**

Worksheet 25.2: Reading Graphs

Concept:

Graphs show patterns in data.

- Bar graphs compare amounts
- Line graphs show trends over time

Practice: (Describe what the graph might show)

- 1. A bar graph shows quarterly sales:
 - Q1: \$5,000
 - Q2: \$6,500
 - Q3: \$6,000
 - Q4: \$8,000

Which quarter had the highest sales? _____

Which quarter had a decline? _____

2. A line graph shows monthly revenue:

Jan: \$4,000 → Feb: \$4,800 → Mar: \$4,500

Was there an overall increase or decrease from January to March?

- 1. Highest = Q4, Decline = Q3 (from Q2)
- 2. Increase: \$500 more in March than January

Worksheet 25.3: Estimating Future Sales

H Concept:

If a business grows consistently, we can **predict** future sales using trends.

Practice:

- Sales grow by 10% each month.
 If April = \$10,000, what is May's sales? _____
 What is June's sales (from May)? _____
- If sales are increasing by \$500 per month, and July's sales were \$7,000, what will sales be in August and September? August = ______
 September = ______

September = _____

- 1. May: \$10,000 × 1.10 = **\$11,000** June: \$11,000 × 1.10 = **\$12,100**
- 2. August = \$7,500, September = \$8,000

Worksheet 25.4: Using Averages

Concept:

The average (mean) is the sum of all numbers divided by how many there are.

Practice:

- 1. Sales over 5 days: \$100, \$150, \$200, \$150, \$100 What's the average daily sales? _____
- 2. A store sells 12, 15, 10, and 13 items on 4 days. What is the average number sold? _____



- 1. Total = \$700 ÷ 5 = **\$140**
- 2. Total = 50 ÷ 4 = **12.5 items**
Worksheet 25.5: Trend Descriptions

Concept:

A trend is the direction data is going over time—upward, downward, or steady.

Practice:

Look at these descriptions and choose the trend:

- 1. "Sales increased each week by \$100 for 6 weeks." \rightarrow Trend: _____
- 2. "Customer visits dropped every day for a week." \rightarrow Trend: _____
- 3. "Sales stayed between \$1,000 and \$1,050 for 3 months." \rightarrow Trend: _____

- 1. Upward
- 2. Downward
- 3. Steady

E Chapter 25 Review Worksheet

What You Learned in This Chapter:

- How to calculate percent changes in sales
- How to read and describe bar and line graphs
- How to use averages to understand sales performance
- What trends tell us about data
- How to make simple predictions from data patterns

Review Questions:

- 1. What does a line graph help you see?
- 2. If last year's sales were \$40,000 and this year's are \$50,000, what's the percent increase?
- 3. What is the average of these sales: \$300, \$500, \$400?
- 4. If sales go down every month, what's the trend called?
- 5. A business earned \$12,000 and then dropped to \$9,000. What's the percent decrease?

- 1. Changes over time
- 2. (10,000 ÷ 40,000) = 0.25 → **25%**
- 3. (\$300 + \$500 + \$400) ÷ 3 = **\$400**
- 4. Downward trend
- 5. (3,000 ÷ 12,000) = 0.25 → **25% decrease**

Chapter 26: Math and the Government

What You'll Learn:

In this chapter, you'll explore how governments use math in budgets, taxes, and population statistics. You'll understand:

- How to read a simple government budget
- How progressive tax brackets work
- How to calculate per-capita figures
- How to interpret demographic percentages
- How to evaluate debt as a percentage of GDP

Worksheet 26.1: Reading a Simple Budget

***** Concept:

A government budget shows **revenues** (money in) and **expenditures** (money out). The **surplus/deficit** is Revenue – Expenditure.

Practice:

Category Amount (\$ billions)

Revenues 3,500

Defense 700

Education 500

Health Care 1,200

Infrastructure 300

Other 600

- 1. Total Expenditures = _____
- 2. Surplus/Deficit = Revenues Expenditures = _____ (positive=surplus, negative=deficit)



- 1. 700 + 500 + 1,200 + 300 + 600 = **3,300**
- 2. 3,500 3,300 = **\$200 billion surplus**

Worksheet 26.2: Progressive Tax Brackets

Concept:

Progressive taxes charge **higher rates** on higher income brackets. *For example:*

- 10% on the first \$10,000
- 20% on the next \$20,000
- 30% on any amount above \$30,000

Practice:

- 1. If you earn \$25,000:
 - 10% on \$10,000 = \$1,000
 - 20% on \$15,000 = _____

Total tax = _____

- 2. If you earn \$50,000:
 - 10% on \$10,000 = \$1,000
 - 20% on \$20,000 = \$4,000
 - 30% on \$20,000 = _____

Total tax = _____

- 1. $20\% \times 15,000 = $3,000 \rightarrow \text{Total} = $1,000 + $3,000 = $4,000$
- 2. $30\% \times 20,000 = \$6,000 \rightarrow \text{Total} = \$1,000 + \$4,000 + \$6,000 = \$11,000$

Worksheet 26.3: Per-Capita Calculations

Concept:

Per-capita figures divide a total by population to show an average per person.

Practice:

- A country's GDP is \$2 trillion and population is 250 million.
 GDP per capita = _____
- A city's tax revenue is \$5 billion, population 2 million.
 Revenue per capita = _____

- 1. 2,000 billion ÷ 250 million = **\$8,000 per person**
- 2. 5 billion ÷ 2 million = **\$2,500 per person**

Worksheet 26.4: Demographic Percentages

Concept:

Demographics often show percentages of groups within a population.

Practice:

In a town of 20,000:

- 5,000 are under 18
- 12,000 are 18–64
- 3,000 are 65+
- 1. % under 18 = _____
- 2. % aged 18–64 = _____
- 3. % 65+ = _____

- 1. 5,000 ÷ 20,000 = 0.25 → **25%**
- 2. 12,000 ÷ 20,000 = 0.60 → **60%**
- 3. 3,000 ÷ 20,000 = 0.15 → **15%**

Worksheet 26.5: Debt-to-GDP Ratio

Concept:

Debt-to-GDP ratio = (Total government debt \div GDP) × 100%. It gauges how sustainable debt is.

Practice:

A country has \$15 trillion debt and \$20 trillion GDP. **Debt-to-GDP =** _____%

Answer Key: 15 trillion ÷ 20 trillion = 0.75 × 100% = **75%**

E Chapter 26 Review Worksheet

What You Learned in This Chapter:

- How to read a basic budget and compute surplus/deficit
- How progressive tax brackets calculate tax owed
- How to compute per-capita figures for GDP or revenue
- How to turn population counts into percentages
- How to calculate debt-to-GDP ratios

Review Questions:

- 1. A budget has \$4 trillion revenue and \$4.2 trillion spending. What is the deficit?
- 2. If you earn \$40,000, using the brackets above, what is your total tax?
- 3. A GDP of \$3 trillion with 300 million people yields what per-capita?
- 4. If 30% of a city's 100,000 residents are renters, how many renters is that?
- 5. Debt of \$10 trillion with GDP \$12 trillion gives what debt-to-GDP ratio?

- 1. -\$0.2 trillion (deficit)
- 2. 10%×10k + 20%×20k + 30%×10k = 1k + 4k + 3k = **\$8,000**
- 3. 3,000 billion ÷ 300 million = **\$10,000**
- 4. 0.30 × 100,000 = **30,000** renters
- 5. 10 ÷ 12 = 0.833... ×100 = **83.3%**

Chapter 27: Insurance Math

What You'll Learn:

In this chapter, you'll learn how to understand and calculate basic insurance costs and risks. You'll explore:

- What insurance is and why people buy it
- How premiums, deductibles, and coverage amounts work
- How to calculate risk vs. cost
- How to compare insurance plans
- Real-life examples of car, health, and life insurance math

Worksheet 27.1: Understanding Insurance Terms

Concept:

- Premium: The amount you pay for insurance (monthly or yearly)
- Deductible: What you pay out of pocket before insurance covers costs
- Coverage limit: The maximum amount insurance will pay
- Claim: A request for payment after a loss

Practice:

Match each term with its definition:

Term Definition Letter

Premium

Deductible

Coverage

Claim

Definitions:

- A. The highest amount the company will pay
- B. What you pay each month or year
- C. A request for insurance to pay for something
- D. What you must pay before insurance kicks in

🗹 Answer Key:

Premium = B Deductible = D Coverage = A Claim = C

Worksheet 27.2: Calculating Total Cost

Concept:

To estimate yearly cost:

Total Cost = (Monthly Premium × 12) + Deductible (if used)

Practice:

- You pay \$150/month for car insurance and have a \$500 deductible. What is your total cost if you file a claim? _____
- 2. You pay \$200/month for health insurance and do **not** use it. What's your total cost for the year?

- 1. (150 × 12) + 500 = \$1,800 + 500 = **\$2,300**
- 2. 200 × 12 = **\$2,400**

Worksheet 27.3: Comparing Insurance Plans

i Concept:

You can compare plans by considering both premiums and deductibles.

Practice:

Plan A: \$120/month, \$1,000 deductible

Plan B: \$90/month, \$1,500 deductible

- 1. Which is cheaper per year if you have no claims?
- 2. Which is cheaper if you have a \$2,000 claim?

- 1. A: \$1,440/year; B: \$1,080/year \rightarrow Plan B is cheaper
- 2. A: 1,440 + 1,000 = 2,440; B: 1,080 + 1,500 = 2,580 \rightarrow Plan A is cheaper

Worksheet 27.4: Risk vs. Cost

H Concept:

Insurance helps cover **unexpected events**. You may pay more to protect yourself from high-cost risks.

Practice:

Decide if these are high or low risk:

Situation

Risk Level (High/Low)

- You have a long commute daily
- You are young and healthy
- You own a house in a flood zone
- You ride a motorcycle
- You live in a quiet rural area

Answer Key: Commute = High Young/healthy = Low Flood zone = High Motorcycle = High Rural = Low

Worksheet 27.5: Real-Life Insurance Math

Concept:

Use real numbers to figure out what insurance might actually cost.

Practice:

- 1. Car insurance:
 - Monthly premium: \$140
 - Deductible: \$1,000
 - You file a claim for \$3,000 damage.
 What does insurance pay? _____
 What do you pay total? _____
- 2. Health insurance:
 - Monthly premium: \$180
 - Deductible: \$2,000
 - You have \$5,000 in medical bills
 What does insurance pay? _____
 What do you pay total? _____

- Insurance pays: \$3,000 \$1,000 = \$2,000 You pay: (140 × 12) + 1,000 = \$2,680
- Insurance pays: \$5,000 \$2,000 = \$3,000
 You pay: (180 × 12) + 2,000 = \$4,160

E Chapter 27 Review Worksheet

What You Learned in This Chapter:

- Insurance helps manage financial risk
- Premiums are what you pay regularly
- Deductibles are paid before insurance kicks in
- Comparing total yearly cost helps choose plans
- Insurance protects against big unexpected costs

Review Questions:

- 1. What is a deductible?
- 2. If your monthly premium is \$100, what is your annual cost?
- 3. What is a claim?
- 4. You file a \$2,000 claim with a \$500 deductible. How much does insurance pay?
- 5. Which is more expensive: a \$1,200/year premium or a \$1,000/year premium with a \$300 deductible and a claim?

- 1. What you pay out of pocket before insurance pays
- 2. 100 × 12 = **\$1,200**
- 3. A request to insurance to pay for something
- 4. 2,000 500 = **\$1,500**
- 5. \$1,000 + \$300 = \$1,300, so \$1,200 is cheaper

Chapter 28: Advanced Topics in Interest

What You'll Learn:

In this chapter, you'll dive deeper into how interest works over time. You'll learn:

- The difference between simple interest and compound interest
- How to use formulas to calculate both
- How to compare interest rates
- How interest affects savings, loans, and credit cards
- Real-world examples of how interest grows over time

- Worksheet 28.1: Simple vs. Compound Interest
- Concept:
 - Simple Interest:
 I=P×R×T\text{I} = \text{P} \times \text{R} \times \text{T}
 I = interest, P = principal, R = rate, T = time (in years)
 - Compound Interest: A=P(1+rn)ntA = P(1 + \frac{r}{n})^{nt} A = amount, r = annual rate, n = number of times compounded per year, t = time

Practice:

- Simple Interest: You invest \$1,000 at 5% for 3 years. Interest earned = _____
- Compound Interest (annually): \$1,000 at 5% for 3 years.
 Final amount = _____



- 1. I = 1,000 × 0.05 × 3 = **\$150**
- 2. A = 1,000(1 + 0.05)^3 = 1,000 × 1.157625 = \$1,157.63

Worksheet 28.2: Interest with Different Compounding Periods

Concept:

Compound interest increases faster the more often it's calculated (compounded).

- Annually = once per year
- Quarterly = 4 times per year
- Monthly = 12 times per year

Practice:

- 1. \$2,000 at 6% for 2 years, compounded quarterly: A = _____
- \$500 at 8% for 1 year, compounded monthly: A = _____

- 1. A = 2,000(1 + 0.06/4)^(4×2) = 2,000(1 + 0.015)^8 = 2,000 × 1.126825 = **\$2,253.65**
- 2. A = 500(1 + 0.08/12)^12 = 500 × (1.006667)^12 = 500 × 1.083 = \$541.50

Worksheet 28.3: Comparing Interest Scenarios

***** Concept:

Compare total amount or interest earned under different conditions.

Practice:

Which earns more interest?

Option Principal Rate Time Compounding Final Amount

- A \$1,000 4% 5 yr Simple
- B \$1,000 4% 5 yr Compound (annually)



- A: Simple = 1,000 × 0.04 × 5 = **\$200** → Total = **\$1,200**
- B: Compound = 1,000 × (1.04)^5 = 1,000 × 1.21665 = **\$1,216.65**
 - ightarrow Option B earns more

Worksheet 28.4: Credit Card Interest

i Concept:

Credit cards often compound interest **daily** on unpaid balances. Small rates can add up!

Practice:

You owe \$1,000 at 18% annual rate, compounded monthly. You don't make any payments for 1 year. How much do you owe after 12 months? _____

✓ Answer Key:
 A = 1,000 × (1 + 0.18/12)^12 = 1,000 × 1.1956 = \$1,195.62
 → Nearly \$200 in interest

Worksheet 28.5: Planning for Savings Growth

Concept:

Understanding compound interest helps you plan savings goals over time.

Practice:

You deposit \$5,000 at 4% interest, compounded annually. You leave it for 10 years. How much will you have? _____

✓ Answer Key:
 A = 5,000 × (1.04)^10 = 5,000 × 1.48024 = \$7,401.20
 → You earned \$2,401.20 in interest

Chapter 28 Review Worksheet

What You Learned in This Chapter:

- Simple interest is easy to calculate, but grows slowly
- Compound interest increases faster, especially with frequent compounding
- Comparing interest types is key when borrowing or saving
- Credit card interest grows quickly
- Planning early helps your money grow with interest

Review Questions:

- 1. What's the formula for simple interest?
- 2. Which earns more: compound or simple interest?
- 3. How does the number of compounding periods affect interest earned?
- 4. What happens if you don't pay your credit card?
- 5. You save \$1,000 at 5% for 2 years, compounded annually. Final amount?

- 1. $I = P \times R \times T$
- 2. Compound
- 3. More compounding = more interest
- 4. You owe more over time
- 5. A = 1,000 × (1.05)² = 1,000 × 1.1025 = \$1,102.50

Chapter 29: Tipping

What You'll Learn:

In this chapter, you'll learn the math behind tipping in everyday situations. You'll understand:

- When and why tipping is appropriate
- How to quickly calculate common tip percentages
- How to mentally estimate tips without a calculator
- How to adjust tips for great or poor service
- How to find the total bill including the tip

Worksheet 29.1: Understanding Tip Percentages

i Concept:

Common tip amounts in the U.S. are:

- 15% for okay service
- 18% for good service
- 20% for excellent service

Practice:

Find the tip for each meal:

- 1. \$40 meal, 15% tip = _____
- 2. \$75 meal, 18% tip = _____
- 3. \$60 meal, 20% tip = _____
- 4. \$28 meal, 20% tip = _____

- 1. 40 × 0.15 = **\$6.00**
- 2. 75 × 0.18 = **\$13.50**
- 3. 60 × 0.20 = **\$12.00**
- 4. 28 × 0.20 = **\$5.60**

Worksheet 29.2: Finding the Total with Tip

Concept:

To find the total bill including tip: Total = Bill + Tip

Practice:

- 1. Meal = \$50, Tip = 15% Total = _____
- 2. Meal = \$120, Tip = 20% Total = _____
- 3. Meal = \$30, Tip = 18% Total = _____



- 1. Tip = \$7.50 → Total = **\$57.50**
- 2. Tip = \$24 → Total = **\$144.00**
- 3. Tip = \$5.40 → Total = **\$35.40**

Worksheet 29.3: Mental Math Tip Tricks

i Concept:

Estimate tips quickly by rounding and doubling.

- To estimate 10%, move the decimal one place left
- For 20%, double the 10% amount
- For 15%, find 10% and add half of that again

Practice:

Estimate the tip mentally (round if needed):

- 1. \$34 meal, 10% = _____
- 2. \$34 meal, 20% = _____
- 3. \$34 meal, 15% = _____
- 4. \$68 meal, 20% = _____

- 1. \$3.40
- 2. \$6.80
- 3. \$3.40 + \$1.70 = **\$5.10**
- 4. \$6.80 × 2 = **\$13.60**

Worksheet 29.4: Tipping in Real Life Situations

Concept:

Tipping applies in more than just restaurants:

- Haircuts: 15–20%
- Food delivery: 10–20%
- Taxi or rideshare: 10–15%
- Hotel housekeeping: \$1–5 per night

Practice:

Decide how much tip is appropriate:

- 1. Haircut: \$45, great service \rightarrow 20% tip = ____
- 2. Pizza delivery: \$30, average service \rightarrow 15% tip = _____
- 3. Taxi ride: \$25, poor service \rightarrow 10% tip = _____
- 4. 3-night hotel stay \rightarrow tip total = _____ (use \$3 per night)

- 1. \$9.00
- 2. \$4.50
- 3. \$2.50
- 4. 3 × \$3 = **\$9.00**

Worksheet 29.5: Tip Challenge Review

i Concept:

Practice calculating tips in different ways and situations.

Challenge Questions:

- 1. $22.50 \text{ dinner}, 18\% \text{ tip} \rightarrow \text{Tip} =$
- 2. You want to leave a \$5 tip. The meal was \$25. What percent is that? _____
- 3. Haircut was \$35. You paid \$40. What percent did you tip? _
- 4. You tip \$10 on a \$40 service. Did you tip more or less than 20%?



- 1. 22.50 × 0.18 = **\$4.05**
- 2. 5 ÷ 25 = 0.20 → **20%**
- 3. Tip = $5 \rightarrow 5 \div 35 = 0.1428 \rightarrow 14.3\%$
- 4. $10 \div 40 = 0.25 \rightarrow 25\%$, more than 20%

E Chapter 29 Review Worksheet

What You Learned in This Chapter:

- How to calculate 10%, 15%, 18%, and 20% tips
- How to mentally estimate tips using easy tricks
- How to calculate totals with tip included
- How tipping varies by service type
- Why tipping fairly is part of respectful budgeting

Review Questions:

- 1. What is 15% of \$40?
- 2. A \$60 meal with 20% tip totals what amount?
- 3. What's an easy way to find a 10% tip?
- 4. You tipped \$2 on a \$10 pizza delivery. What's the percent?
- 5. Why is it important to understand tipping?

Answer Key:

1. \$6.00

- 2. 60 + 12 = **\$72**
- 3. Move decimal one place left (10% of \$50 = \$5)
- 4. 2 ÷ 10 = 0.20 → **20%**
- 5. Because it's a part of everyday financial responsibility and social courtesy

Chapter 30: Sports

What You'll Learn:

In this chapter, you'll use sports to explore fun, real-life math! You'll practice:

- Averages and percentages (like batting average or field goal %),
- Speed, time, and distance (racing, swimming, etc.),
- Interpreting scores and standings,
- Understanding ratios and probabilities,
- And working with sports-related charts and graphs.

Worksheet 30.1: Scoring Averages

i Concept:

A **scoring average** tells how many points or goals a player scores per game. Use:

Average = Total Points ÷ Games Played

Practice:

- Jenna scored 92 points in 10 games. Average = _____
- Malik scored 105 goals in 21 games. Average = _____
- 3. A team scored 240 points in 12 games. What's the average per game? _____



- 1. 92 ÷ 10 = **9.2**
- 2. 105 ÷ 21 = **5**
- 3. 240 ÷ 12 = **20**

Worksheet 30.2: Field Goal and Batting Percentages

Concept:

Percentage = (Successes ÷ Attempts) × 100

Practice:

- A basketball player made 30 of 50 shots. Shooting percentage = ____%
- A baseball player got 40 hits out of 160 at-bats.
 Batting average = _____ (round to 3 decimal places)
- A football kicker made 18 of 25 field goals.
 Percentage = ____%



- 1. (30 ÷ 50) × 100 = **60%**
- 2. 40 ÷ 160 = **.250**
- 3. (18 ÷ 25) × 100 = **72%**

Worksheet 30.3: Speed and Time in Races
 Concept:
 Speed = Distance ÷ Time
 Time = Distance ÷ Speed

Practice:

- 1. A runner goes 5 miles in 40 minutes. What is her speed in miles per hour?
- 2. A swimmer swims 200 meters in 2.5 minutes. What is his speed per minute?
- 3. If a biker rides at 12 mph, how far will she go in 1.5 hours?

- 1. 5 ÷ (40 ÷ 60) = 5 ÷ 0.666 = **7.5 mph**
- 2. 200 ÷ 2.5 = 80 meters/min
- 3. 12 × 1.5 = **18 miles**

Worksheet 30.4: Sports Standings and Ratios

Concept:

Use ratios and winning percentages to interpret standings.

• Winning Percentage = Wins ÷ Total Games

Practice:

Team Wins Losses

- A 8 2
- B 6 4
- C 5 5
 - 1. What is Team A's win percentage? _____
 - 2. What is Team B's win-loss ratio?
 - 3. Which team has the best record? _____

- 1. 8 ÷ 10 = **0.8 or 80%**
- 2. 6:4 = **3:2**
- 3. Team A

Worksheet 30.5: Graphing Sports Stats

Concept:

Graphs help visualize how a player or team performs over time.

Practice:

You track the number of goals your team scores in 5 games:

2, 4, 3, 1, 5

- 1. What is the total number of goals? _____
- 2. What is the average per game? _____
- 3. Which game had the highest score? _____
- 4. Graph these numbers on a bar graph (draw or imagine bars from 1 to 5).



- 1. 2 + 4 + 3 + 1 + 5 = 15
- 2. 15 ÷ 5 = **3**
- 3. Game 5 (5 goals)
E Chapter 30 Review Worksheet

What You Learned in This Chapter:

- How to find averages and percentages from sports data
- How to calculate speed and distance
- How to use ratios and standings
- How to interpret sports charts and stats
- That math shows up everywhere—even in games!

Review Questions:

- 1. A player scores 54 points in 6 games. What's the average?
- 2. A swimmer swims 500 meters in 5 minutes. What's her speed?
- 3. A football team has 9 wins and 3 losses. What's their win percentage?
- 4. If a player shoots 40 times and makes 28, what is their shooting %?
- 5. Why is math important in sports?

- 1. 54 ÷ 6 = **9**
- 2. 500 ÷ 5 = 100 m/min
- 3. 9 ÷ 12 = **0.75 or 75%**
- 4. $28 \div 40 = 0.7 \rightarrow 70\%$
- 5. It helps measure performance, make decisions, and improve results

Chapter 31: Statistics in the News

What You'll Learn:

In this chapter, you'll learn how to understand and evaluate statistics you see in the news or online. You'll discover:

- How averages, medians, and modes are used
- How charts and graphs can be misleading
- The importance of sample size
- How to spot bias or manipulation in data
- Why it's important to think critically about statistics

Worksheet 31.1: Understanding Mean, Median, and Mode

Concept:

- Mean: Add all numbers, then divide by how many
- Median: Middle number when sorted
- Mode: Most common number

Practice:

- 1. Ages: 25, 30, 30, 35, 40
 - Mean = _____
 - Median = _____
 - Mode = _____
- 2. Test scores: 88, 92, 85, 95, 85, 90
 - Mean = _____
 - Median = _____
 - Mode = _____

- 1. Mean = (25+30+30+35+40) ÷ 5 = 160 ÷ 5 = **32** Median = **30**, Mode = **30**
- Mean = (88+92+85+95+85+90) ÷ 6 = 535 ÷ 6 = 89.17
 Sorted = 85, 85, 88, 90, 92, 95 → Median = (88+90) ÷ 2 = 89
 Mode = 85

Worksheet 31.2: Reading Graphs Critically

Concept:

Graphs can be designed to highlight or hide information.

Practice:

You see this bar chart on the news:

Year Sales (in millions) 2020 2.0 2021 2.1 2022 2.2 But the Y-axis starts at 1.9 instead of 0. What does this make the growth look like? _____ Why might someone design it this way? _____

- It makes the growth look dramatic when it's actually small
- They may want to exaggerate improvement or grab attention

Worksheet 31.3: Sample Size Matters

Concept:

A large **sample size** makes statistics more trustworthy.

Practice:

- 1. Which is more reliable?
 - A survey of 10 people says 80% love the product
 - A survey of 1,000 people says 65% love the product
- 2. A headline says: "9 out of 10 people prefer this cereal!" What question should you ask before trusting it?

- 1. 1,000 people is more reliable
- 2. Ask: "How many people were surveyed?" and "Who paid for the survey?"

Worksheet 31.4: Spotting Bias in Statistics

Concept:

Some stats are presented with **bias**—pushing one side of a story.

Practice:

- 1. A soda company says, "90% of people prefer our drink!"
 - Who likely paid for the survey?
 - Why might that be a problem? _____
- 2. A political group says, "Unemployment has doubled!"
 - What questions should you ask?

- 1. The **soda company** paid \rightarrow they may have influenced results
- 2. Ask: What were the original numbers? and What time period is this over?

Worksheet 31.5: Misleading Averages

Concept:

Averages can be misleading if data is skewed by outliers.

Practice:

The average salary at a company is \$150,000. Most workers earn \$50,000–\$60,000, but the CEO earns \$5 million. Is the average a good representation of most workers' pay? _____ What might be a better number to use? _____

- No, the average is skewed by the CEO's income
- The median or mode is better in this case

E Chapter 31 Review Worksheet

What You Learned in This Chapter:

- How to calculate and interpret mean, median, and mode
- How to read and question charts and graphs
- Why sample size matters
- How bias affects statistics
- How to think critically about data in the news

Review Questions:

- 1. What's the difference between mean and median?
- 2. Why is sample size important?
- 3. What should you check when reading a news graph?
- 4. If one number is way higher than the others, what kind of average should you look at?
- 5. Why is it important to question statistics?

- 1. Mean = average; Median = middle number
- 2. Larger samples are more accurate
- 3. Look at the scale, source, and design
- 4. Use median or mode, not just mean
- 5. Because stats can be used to mislead or sell an idea

Chapter 32: Ten Fast, Useful Math Tricks

What You'll Learn:

In this fun and practical chapter, you'll discover ten easy math tricks that save time, boost confidence, and make everyday math feel easier. You'll learn shortcuts for:

- Multiplying quickly
- Estimating
- Mental math
- Dividing with ease
- Converting units ...and more!

- Worksheet 32.1: Multiply by 11 Quickly
- Trick #1: Multiply 2-digit numbers by 11
- For numbers like 23 × 11:
 - Split the digits: 2 _ 3
 - Add the digits: 2 + 3 = 5
 - Insert the 5 between them $\rightarrow \mathbf{253}$

Practice:

- 1. 42 × 11 = _____
- 2. 63 × 11 = _____
- 3. 71 × 11 = _____
- 4. 34 × 11 = _____



- 1. 462
- 2. 693
- 3. 781
- 4. 374

Worksheet 32.2: Multiply by 5 in Your Head

Trick #2: Multiply any number by 5

Multiply by 10 and then divide by 2
 Example: 36 × 5 = (36 × 10) ÷ 2 = 360 ÷ 2 = 180

Practice:

- 1. 24 × 5 = _____
- 2. 50 × 5 = _____
- 3. 88 × 5 = _____
- 4. 62 × 5 = _____

- 1. 120
- 2. 250
- 3. 440
- 4. 310

Worksheet 32.3: Multiply by 9 with Your Fingers

Trick #3: Use your fingers to multiply by 9 (1–10)

Put down the finger that matches the number you're multiplying.

- Left side = tens
- Right side = ones

Example: $9 \times 4 \rightarrow$ put down your 4th finger \rightarrow 3 (left), 6 (right) \rightarrow 36

Practice:

Try 9×2 through 9×9 using your fingers or memory:

- 1. 9 × 2 = _____
- 2. 9 × 3 = _____
- 3. 9 × 6 = _____
- 4. 9 × 9 = _____



- 1. 18
- 2. 27
- 3. 54
- 4. 81

Worksheet 32.4: Estimating with Rounding

***** Trick #4: Round numbers to make math easier

Estimate totals quickly by rounding up or down.

Practice:

- 1. Estimate: 198 + 403 = _____
- 2. Estimate: 782 391 = _____
- 3. Estimate: 56 × 8 = _____
- 4. Estimate: 306 ÷ 7 = _____

- 1. 200 + 400 = **600**
- 2. 780 390 = **390**
- 3. 60 × 8 = **480**
- 4. 315 ÷ 7 = **45**

Worksheet 32.5: Dividing by 5 the Fast Way

Trick #5: Divide by 5 by doubling then dividing by 10

Example: 245 ÷ 5 \rightarrow double it (490), then divide by 10 \rightarrow **49**

Practice:

- 1. 80 ÷ 5 = _____
- 2. 145 ÷ 5 = _____
- 3. 22 ÷ 5 = _____
- 4. 360 ÷ 5 = _____

- 1. 16
- 2. 29
- 3. 4.4
- 4. 72

Worksheet 32.6: Quick Squares Ending in 5

Trick #6: Squaring Numbers Ending in 5

For any number ending in 5 (like 25, 35):

• Multiply the first digit by itself +1, then add 25 to the end. Example: $35^2 = 3 \times 4 = 12 \rightarrow 1225$

Practice:

- 1. 25² = _____
- 2. 45² = _____
- 3. 65² = _____
- 4. 85² = _____



- 1. 625
- 2. 2025
- 3. 4225
- 4. 7225

Worksheet 32.7: Doubling and Halving to Multiply

Trick #7: If one number is even, halve one and double the other Example: $16 \times 25 \rightarrow 8 \times 50 \rightarrow 4 \times 100 = 400$

Practice:

- 1. 12 × 25 = _____
- 2. 16 × 75 = _____
- 3. 14 × 50 = _____
- 4. 8 × 125 = _____

- 1. 6 × 50 = **300**
- 2. 8 × 150 = **1200**
- 3. 7 × 100 = **700**
- 4. 4 × 250 = **1000**

Worksheet 32.8: Easy Percent Tricks

***** Trick #8: 10%, 20%, 25%, and 50% made simple

- 10% = move decimal
- 25% = divide by 4
- 50% = divide by 2

Practice:

- 1. 10% of 320 = _____
- 2. 25% of 80 = _____
- 3. 50% of 250 = _____
- 4. 20% of 200 = _____

- 1. 32
- 2. 20
- 3. 125
- 4. 40

Worksheet 32.9: Multiply Large Numbers Ending in Zero

Trick #9: Ignore the zeroes, multiply, then add them back

Example: $30 \times 400 \rightarrow 3 \times 4 = 12 \rightarrow add 3 zeroes = 12,000$

Practice:

- 1. 50 × 600 = _____
- 2. 70 × 90 = _____
- 3. 800 × 40 = _____
- 4. 300 × 300 = _____

- 1. 30,000
- 2. 6,300
- 3. 32,000
- 4. 90,000

Worksheet 32.10: Trick for Checking with 9s

Trick #10: Digit sum to check answers (for fun!)

Add the digits of a number until you get one digit. It can help spot mistakes. Example: $438 \rightarrow 4 + 3 + 8 = 15 \rightarrow 1 + 5 = 6$

Practice:

Try finding the digit sum:

- 1. 512 = _____
- 2. 729 = _____
- 3. 68 = _____
- 4. 999 = _____



1. 5 + 1 + 2 = 8

- 2. $7 + 2 + 9 = 18 \rightarrow 1 + 8 = 9$
- 3. $6 + 8 = 14 \rightarrow 1 + 4 = 5$
- 4. $9 + 9 + 9 = 27 \rightarrow 2 + 7 = 9$

Chapter 32 Review Worksheet

What You Learned in This Chapter:

- Ten quick and useful math tricks
- Ways to multiply, divide, estimate, and calculate faster
- Mental shortcuts for everyday situations
- How to enjoy math and build confidence doing it!

Review Questions:

- 1. What's a fast way to multiply by 11?
- 2. How do you find 10% of any number?
- 3. What's the trick for squaring numbers that end in 5?
- 4. How can you check a math problem with digit sums?
- 5. Which trick did you find most helpful?

- 1. Add the digits and place in between $(23 \times 11 = 253)$
- 2. Move the decimal one place left
- 3. Multiply first digit by itself +1, then add 25 to the end
- 4. Add the digits of each number and compare
- 5. (Personal answer)

Chapter 33: Ten Fast, Silly Number Tricks

What You'll Learn:

In this chapter, you'll explore silly, surprising, and just-for-fun number tricks! These aren't always practical—but they make you say *"Whoa, that actually works!"* and they sharpen your mental math and logic skills.

You'll try:

- Number prediction games
- Fun math patterns
- Surprising number flips
- Mind-reading math
- Magical math routines

Trick 1: The Always 1089 Trick

H Try this:

- 1. Pick a 3-digit number where the first and last digits differ by at least 2 (e.g., 421)
- 2. Reverse the digits (124)
- 3. Subtract the smaller from the larger: 421 124 = 297
- 4. Now reverse the result: 792
- 5. Add those two together: 297 + 792 = _____



Trick 2: The "All 9s" Multiply Game

Try this:

Multiply any number by 9, then add the digits of your answer together.

Example: $9 \times 4 = 36 \rightarrow 3 + 6 = 9$

Try it for:

- 1. $9 \times 7 = \longrightarrow$ digits add to? 2. $9 \times 8 = \longrightarrow$ digits add to?
- 3. $9 \times 11 = _$ \rightarrow digits add to?

Answers: 1. $63 \rightarrow 6 + 3 = 9$ 2. $72 \rightarrow 7 + 2 = 9$ 3. $99 \rightarrow 9 + 9 = \mathbf{18} \rightarrow \mathbf{1} + \mathbf{8} = \mathbf{9}$ It always comes back to 9!

Trick 3: Your Shoe Size and Age

- **H** Try this:
 - 1. Multiply your shoe size by 5
 - 2. Add 50
 - 3. Multiply by 20
 - 4. Add 1024
 - 5. Subtract the year you were born

The last two digits are your age, the rest is your shoe size! (Only works if your birthday has already happened this year)

Trick 4: Mind-Reading Math

Try this on someone else:

- 1. Pick a number between 1 and 10
- 2. Multiply by 2
- 3. Add 8
- 4. Divide by 2
- 5. Subtract the original number

Their answer will always be... 4!

Trick 5: The 37 Pattern

Try this:

Multiply 3-digit numbers made of repeating digits by 37.

- 1. 111 × 37 = _____
- 2. 222 × 37 = _____
- 3. 333 × 37 = _____

What do you notice?

Answers:

- 1. 4,107
- 2. 8,214
- 3. 12,321

Each answer is the number repeated three times!

Trick 6: Odd Number Flip

Try this:

Square any odd number ending in 5.

- 1. $15^2 =$ _____ 2. $25^2 =$ _____
- 3. 35² =

Then reverse the digits in the answer. What do you notice?

Answers:

- 1. $225 \rightarrow 522$
- 2. 625 → 526
- 3. $1225 \rightarrow 5221$

(Okay, just a silly one—sometimes the reverse looks like something fun!)

Trick 7: 12345679 × 9 Pattern

H Try this:

Multiply 12345679 (yes-missing the "8"!) by:

- 1. 9 = _____
- 2. 18 = _____
- 3. 27 = _____
- 4. 36 = _____

Answers:

- 1. 111,111,111
- 2. 222,222,222
- 3. 333,333,333
- 4. 444,444,444

Cool, right?

Trick 8: Calculator Words

Try this:

Use a calculator and type in: 58008 Now turn it upside down. 😄 Try:

• 07734

- 55378
- 71077345

Just for fun!

Trick 9: Reversing 2-Digit Multiples of 9

- **H** Try this:
 - 1. Take 9 × 12 = 108
 - 2. Reverse 12 = 21
 - 3. 9 × 21 = 189

The difference between 189 and 108 is always a multiple of 81!

Try:

- 1. 9 × 13 = _____
- 2. Reverse = $31 \rightarrow 9 \times 31 =$ ______ What's the difference?



- 1. $117 \rightarrow 9 \times 31 = 279$
- 2. 279 117 = $162 \rightarrow 162 \div 81 = 2$

Trick 10: Pick a 2-Digit Number

- Try this:
 - 1. Pick any 2-digit number
 - 2. Add the digits
 - 3. Subtract the sum from the original number

4. The result will always be a multiple of 9! (And likely shows up in number tricks...)

Try it with:

- 54
- 63
- 72

Answers: $54 \rightarrow 5+4=9 \rightarrow 54-9=45$ $63 \rightarrow 6+3=9 \rightarrow 63-9=54$ $72 \rightarrow 7+2=9 \rightarrow 72-9=63$

E Chapter 33 Review Worksheet

What You Learned in This Chapter:

- Silly but smart number patterns
- Number tricks that always work
- Fun ways to use math with friends and family
- How to notice patterns and test math for fun!

Review Questions:

- 1. What happens when you multiply 12345679 by 9?
- 2. What's the trick for making 1089 appear?
- 3. What should you do to read a number word on a calculator?
- 4. What does squaring a number ending in 5 always end with?
- 5. Which trick made you laugh or say "wow!"?

- 1. You get repeating digits (111,111,111)
- 2. Reverse a 3-digit number, subtract, reverse again, then add
- 3. Type the number and flip it upside down
- 4. It always ends in 25
- 5. (Personal answer)

Chapter 34: Ten (or So) Numbers to Remember

What You'll Learn:

This chapter focuses on numbers that are helpful to remember in daily life. These aren't formulas to memorize for a test—they're real-world numbers that can help you make smarter decisions, estimate quickly, and understand what's going on around you.

You'll explore:

- Key math constants and values
- Measurement conversions
- Common reference numbers
- Practical mental benchmarks

Worksheet 34.1: Common Math Constants

Numbers to Know:

Name	Symbol	Approx. Value	Use for
Pi	π	3.14	Circle measurements
Euler's Number	е	2.718	Advanced math & compounding
Golden Ratio	φ	1.618	Art, nature, and design

Practice:

- 1. What number do we often use to calculate the area of a circle?
- 2. What is π used for?
 - a) Triangles
 - b) Circles
 - c) Squares

- 1. **3.14** or π
- 2. b) Circles

Worksheet 34.2: Measurement Conversions

When the set of the s

- 1 foot = 12 inches
- 1 yard = 3 feet
- 1 mile = 5,280 feet
- 1 gallon = 4 quarts = 128 oz
- 1 pound = 16 ounces

Practice:

- 1. How many feet in a mile? _____
- 2. How many cups in a gallon? (Hint: 1 gallon = 4 quarts, 1 quart = 4 cups)
- 3. If a watermelon weighs 8 lbs, how many ounces is that?

- 1. **5,280**
- 2. 16 cups (4 quarts × 4 cups)
- 3. **128 oz** (8 × 16)

Worksheet 34.3: Temperature Benchmarks

Numbers to Know:

- Description °F
- Freezing point 32°F
- Body temperature 98.6°F
- Room temperature ~72°F
- Boiling point 212°F

Practice:

- 1. Water freezes at _____ °F
- 2. If it's 100°F outside, it's probably:
 - a) Cold
 - b) Comfortable
 - c) Hot

- 1. **32°F**
- 2. c) Hot
Worksheet 34.4: Speed and Time References

Numbers to Know:

- 60 seconds = 1 minute
- 60 minutes = 1 hour
- 24 hours = 1 day
- Average walking speed = 3 mph
- Highway speed limit = 55–75 mph

Practice:

- 1. How many minutes are in 3 hours? _____
- 2. If you walk for 2 hours at 3 mph, how far did you go?
- 3. A road sign says 65 mph. What does that mean?

- 1. 180 minutes
- 2. 6 miles
- 3. It's the maximum speed allowed by law

Worksheet 34.5: Percent Benchmarks

Numbers to Know:

- 10% = easy estimate (move decimal)
- 20% = double the 10%
- 25% = one-fourth
- 50% = one-half
- 100% = the whole thing

Practice:

- 1. 10% of \$80 = _____
- 2. 25% of 120 = _____
- 3. 50% of 300 = _____
- 4. If you save 20% on a \$100 item, how much do you save?

- 1. \$8
- 2. \$30
- 3. \$150
- 4. \$20

Worksheet 34.6: Fractions to Decimals

Numbers to Know:

Fraction Decimal Percent

1/2	0.5	50%
1⁄4	0.25	25%
⅓	0.33	33%
2/3	0.66	66%
1⁄8	0.125	12.5%

Practice:

- 1. What is ¼ as a decimal?
- 2. What percent is ¼? _____
- 3. What is 0.5 as a percent? ____
- 4. What is ¹/₈ in decimal form?

- 1. **0.33**
- 2. **25%**
- 3. **50%**
- 4. **0.125**

E Chapter 34 Review Worksheet

What You Learned in This Chapter:

- Key numbers used in real life (like π and 1 mile = 5,280 feet)
- Quick conversion facts and benchmarks
- Real-world reference numbers for time, speed, and temperature
- Helpful mental math reference points

Review Questions:

- 1. How many feet are in a mile?
- 2. What's a quick way to calculate 10% of a number?
- 3. What is the freezing point of water in Fahrenheit?
- 4. What's the average walking speed for a person?
- 5. Which number surprised you the most, and why?

- 1. 5,280
- 2. Move the decimal one place to the left
- 3. 32°F
- 4. About 3 mph
- 5. (Personal response)

Chapter 35: Ten Calculator Tips

What You'll Learn:

In this chapter, you'll explore ten useful tips to help you get the most out of a basic calculator — whether it's a handheld model or the one on your phone. These tips will help you double-check math, save time, and even solve small real-life problems more quickly. You'll learn how to:

- Use memory functions
- Calculate percentages
- Convert decimals and fractions
- Understand order of operations
- Use calculator shortcuts for real-life scenarios

- Worksheet 35.1: Know Your Calculator Functions
- **Calculator Buttons to Know:**

Button What It Does

C or AC Clears the calculator

- M+ Adds to memory
- M- Subtracts from memory
- MR Recalls memory value
- % Calculates percent
- √ Square root
- +/- Changes sign (positive/negative)

Practice:

- 1. What does the v button do?
- 2. What does M+ mean?
- 3. Which button switches between positive and negative numbers?

- 1. Finds the square root
- 2. Adds a number to memory
- 3. The +/- button

Worksheet 35.2: Using Memory Buttons

Try This:

Use your calculator's memory to solve this:

- 1. Type 120, then press M+
- 2. Type 30, then press M+
- 3. Press MR (memory recall) what's the total?

Now subtract 50 using M–, then press MR again.

Answer Key: Initial total = 150 After subtracting 50, memory = **100** Worksheet 35.3: Using the Percent Key

🔆 Try This:

- 1. What's 25% of 160?
 - Type: 160 × 25 % =
- 2. Increase 80 by 20%
 - Type: 80 + 20 % =
- 3. Decrease 120 by 30%
 - Type: 120 30 % =

- 1. **40**
- 2. **96**
- 3. **84**

Worksheet 35.4: Converting Decimals and Percents

Try This:

To convert 0.75 to a percent: multiply by 100 To convert 45% to a decimal: divide by 100

Practice:

- 1. 0.6 = _____%
- 2. 125% = _____ as a decimal
- 3. 0.045 = _____ %

 4. 87% = _____ as a decimal



- 1. 60%
- 2. 1.25
- 3. 4.5%
- 4. 0.87

Worksheet 35.5: Order of Operations on a Calculator

👬 Tip:

Most basic calculators use **left-to-right**, not PEMDAS (unless it's scientific). You must break equations into steps.

Practice:

- 1. Solve: 5 + 2 × 3 = _____ (try it on paper and calculator)
- 2. Try: (5 + 2) × 3 = _____
- 3. Why are the answers different?

- 1. 11 (calculator will do 5 + 2 = 7, × 3 = 21, which is **wrong**)
- 2. 21 (correct with parentheses)
- 3. Calculators follow left-to-right unless told otherwise

Worksheet 35.6: Square Roots and Exponents

Try This:

Use the \mathbf{v} key or the exponent button (\mathbf{x}^2 or \mathbf{v} on scientific calculators)

Practice:

- 1. √64 = _____
- 2. 5² = _____
 3. 9³ = _____ (you may need a scientific calculator for this)



- 1. 8
- 2. 25
- 3. 729

Worksheet 35.7: Tip Calculator

Try This:

To leave a 15% tip on a \$32 meal:

- Type 32 × 15 % = 4.8
- Then add it: 32 + 4.8 = **36.80**

Practice:

- 1. 20% tip on \$45 = _____
- 2. 18% tip on \$60 = _____
- 3. 10% tip on \$75 = _____

- 1. \$9 → Total: \$54
- 2. $$10.80 \rightarrow Total: 70.80
- 3. \$7.50 → Total: \$82.50

Worksheet 35.8: Monthly Budget Math

Try This:

Use your calculator to figure out what's left after spending. Income: \$1,200 Expenses: Rent \$500, Groceries \$200, Gas \$100, Phone \$75

Practice:

- 1. What's the total spent?
- 2. What's left from \$1,200?

- 1. \$875
- 2. \$325 remaining

Worksheet 35.9: Sales and Discounts

Try This:

To find the sale price: Original Price – (Original Price \times % off) Example: \$80 – 20% $80 \times 20\% = 16$ 80 - 16 =**\$64**

Practice:

- 1. \$120 with 25% off = _____
- 2. \$200 with 30% off = _____
- 3. \$50 with 10% off = _____



- 1. \$90
- 2. \$140
- 3. \$45

Worksheet 35.10: Fuel Cost Estimation

H Try This:

To estimate gas costs: Miles ÷ MPG = Gallons needed Gallons × Price per gallon = Total cost

Practice:

You drive 300 miles. Your car gets 25 MPG. Gas is \$3.60/gallon.

- 1. How many gallons needed?
- 2. Total fuel cost?



- 1. 300 ÷ 25 = 12 gallons
- 2. 12 × 3.60 = **\$43.20**

E Chapter 35 Review Worksheet

What You Learned in This Chapter:

- How to use memory buttons
- Quick percent and tip calculations
- Understanding calculator limitations
- Practical ways to estimate and solve money math
- Making your calculator work smarter, not harder!

Review Questions:

- 1. What's the purpose of the M+ and MR buttons?
- 2. What's one thing calculators don't do automatically unless scientific?
- 3. If a meal costs \$68, what's a 20% tip?
- 4. If your budget is \$1,500 and you've spent \$1,260, how much remains?
- 5. What tip did you find most helpful?

- 1. Add to memory and recall memory value
- 2. Use PEMDAS (parentheses/order of operations)
- 3. \$13.60
- 4. \$240
- 5. (Personal answer)

Chapter 36: What They Were Trying to Tell You in Algebra What You'll Learn:

This chapter breaks down the most important algebra concepts you'll actually use in real life. Algebra isn't just about solving for x—it's about recognizing patterns, using formulas, and thinking logically when you face everyday problems.

You'll learn how to:

- Understand and use variables
- Solve one- and two-step equations
- Work with real-life formulas
- Translate word problems into math
- Use graphs to visualize patterns
- Think algebraically in everyday life

Worksheet 36.1: What's a Variable?

Whick Explanation:

A **variable** is a letter that stands in for a number. It can change depending on the situation. **Examples:**

- In x + 3 = 7, x is the unknown number.
- In y = 2x, y changes depending on x.

Practice:

- 1. If x + 5 = 10, what is x? _____
- 2. If y = 3x and x = 4, what is y?
- 3. A number plus 7 equals 12. Write that as an equation:

- 1. 5
- 2. 12
- 3. x + 7 = 12

- Worksheet 36.2: One- and Two-Step Equations
- **Whick Explanation:**
 - **One-step:** Solve by doing the opposite (e.g., subtract or divide)
 - Two-step: Undo addition/subtraction first, then multiply/divide

Practice:

- 1. $x 3 = 9 \rightarrow x =$ _____
- 2. $2x = 14 \rightarrow x =$
- 3. $3x + 5 = 20 \rightarrow x =$
- 4. $x/4 1 = 3 \rightarrow x =$ _____

- 1. 12
- 2. 7
- 3. 5
- 4. 16

Worksheet 36.3: Using Real-Life Formulas

H Try This:

Distance = Rate × Time Area of rectangle = Length × Width Tip = Total × Percent

Practice:

- 1. You drive 60 mph for 3 hours. How far do you go?
- 2. A room is 12 feet long and 10 feet wide. What is its area?
- 3. You tip 20% on a \$25 meal. What is the tip?

- 1. 180 miles
- 2. 120 square feet
- 3. \$5

Worksheet 36.4: Word Problems into Equations

Try This:

Look for clue words like:

- "total" = addition
- "difference" = subtraction
- "times" = multiplication
- "split" or "each" = division

Practice:

- Sarah had \$50. She spent some and now has \$30. How much did she spend?
 Equation:
- 2. A number times 4 is 28. What is the number?
 - Equation: _____
- 3. You earn \$12/hour and work 6 hours. What's your pay?
 - Equation: _____



3. 12 × 6 = 72

Worksheet 36.5: Graphing a Simple Equation

Try This:

If y = 2x, then plug in values for x and solve for y.

x y = 2x

- 0
- 1
- 2
- 3
- 4

Now sketch the line on graph paper or mentally.

🗹 Answer Key:	
x y = 2x	
0 0	
12	
2 4	
3 6	
4 8	

It's a straight line going up!

Worksheet 36.6: Everyday Algebra Scenarios

Think Like This:

- Budgeting: "If I save \$15 each week, how long to save \$150?"
- Cooking: "If a recipe makes 4 servings and I need 12, how much do I multiply everything?"
- Gas: "If gas costs \$3/gallon and I need 10 gallons, what's the total cost?"

Practice:

- 1. You save \$20/week. How many weeks to save \$160?
- 2. A recipe calls for 2 eggs for 4 servings. You want 8 servings. How many eggs?
- 3. If a tank holds 14 gallons and gas is \$3.50/gallon, how much to fill it?

- 1. 8 weeks
- 2. 4 eggs
- 3. \$49

E Chapter 36 Review Worksheet

What You Learned in This Chapter:

- What variables and equations are
- How to solve basic algebra problems
- How to plug into formulas and solve real-life word problems
- Why algebra isn't just for school—it's practical for life!

Review Questions:

- 1. What's the purpose of a variable?
- 2. Solve: 3x 4 = 11
- 3. Use the formula D = R × T: How far can you go in 5 hours at 50 mph?
- 4. What's the real-world use of solving an equation like x + 12 = 50?
- 5. Write a word problem that could be solved with an equation.

- 1. To represent a number that can change
- 2. x = 5
- 3. 250 miles
- 4. To find out how much is left, how much was spent, or what's missing
- 5. (Personal response)

Chapter 37: What They Were Trying to Tell You in Geometry

What You'll Learn:

Geometry is the math of shapes, space, and structure. You'll discover that geometry is all around you in your house, in the road you drive on, and even in the way furniture is arranged. This chapter brings meaning to the angles, formulas, and figures you learned in school and shows how they apply to real life.

You'll learn how to:

- Identify and measure basic shapes and angles
- Use perimeter, area, surface area, and volume
- Apply the Pythagorean Theorem
- Understand symmetry and transformations
- Use geometry in real-world situations like building and design

Worksheet 37.1: Identifying Shapes and Angles

Key Shapes & Angles:

Shape Description

Triangle 3 sides, angles add up to 180°

Square 4 equal sides, all 90° angles

Rectangle Opposite sides equal, 90° angles

Circle All points are same distance from center

Practice:

- 1. How many degrees are in a triangle? _____
- 2. A square has sides that are each 5 inches. What is its perimeter?
- 3. A circle's radius is 6 cm. What is the diameter?

- 1. 180°
- 2. 20 inches
- 3. 12 cm

Worksheet 37.2: Perimeter and Area

Formulas:

- Perimeter of rectangle = 2 × (length + width)
- Area of rectangle = length × width
- Area of triangle = $\frac{1}{2} \times \text{base} \times \text{height}$
- Area of circle = $\pi \times \text{radius}^2$ (use $\pi \approx 3.14$)

Practice:

- 1. A rectangle is 8 ft long and 3 ft wide.
 - Perimeter = _____
 - Area = _____
- 2. A triangle has a base of 10 m and height of 6 m.
 - Area = _____
- 3. A circle has a radius of 7 in.
 - Area = _____ (round to nearest whole number)

- 1. Perimeter = 22 ft, Area = 24 ft^2
- 2. Area = 30 m^2
- 3. Area ≈ 154 in²

Worksheet 37.3: Volume and Surface Area

Formulas:

Shape Volume Formula

Cube side³

Rect. prism length × width × height

Cylinder $\pi \times radius^2 \times height$

Practice:

- 1. A cube has side length of 4 cm. What is its volume?
- 2. A box is 5 ft long, 2 ft wide, and 3 ft high.
 - Volume = _____
- 3. A cylinder has radius 3 in and height 10 in.
 - Volume = ____ (use $\pi \approx 3.14$)

- 1. 64 cm³
- 2. 30 ft³
- 3. ≈ 282.6 in³

Worksheet 37.4: The Pythagorean Theorem

Formula:

 $a^2 + b^2 = c^2$ (used for right triangles)

Practice:

- 1. One leg of a right triangle is 6 and the other is 8. What is the hypotenuse?
- 2. A right triangle has a hypotenuse of 13 and one leg is 5. What is the other leg?

- 1. $c^2 = 36 + 64 = 100 \rightarrow c = 10$
- 2. $13^2 = x^2 + 25 \rightarrow 169 25 = 144 \rightarrow x = 12$

Worksheet 37.5: Symmetry and Transformations

Definitions:

Term Meaning

Symmetry Same on both sides when folded

Translation Slide (move a shape)

Rotation Turn (around a point)

Reflection Flip (mirror image)

Practice:

- 1. What kind of transformation is a mirror image?
- 2. What does it mean if a shape has symmetry?
- 3. Draw a square and show a line of symmetry.

- 1. Reflection
- 2. It looks the same on both sides when folded in half
- 3. (Personal drawing—line down the middle)

Worksheet 37.6: Geometry in Real Life

Real-Life Uses:

- Designing rooms (area and perimeter)
- Building things (volume and right angles)
- Packing and shipping (surface area)
- Tiling floors (shape, size, and layout)

Practice:

- 1. You're tiling a floor that's 10 ft \times 12 ft.
 - How many square feet of tile do you need?_____
- 2. You want to build a box that is 4 ft long, 2 ft wide, and 3 ft tall.
 - What is the volume? _____
- 3. What's the diagonal distance across a 6 ft × 8 ft wall? (Use the Pythagorean theorem)

- 1. 120 ft²
- 2. 24 ft³
- 3. $\sqrt{36 + 64} = \sqrt{100} = 10$ ft

E Chapter 37 Review Worksheet

What You Learned in This Chapter:

- Basic geometry shapes and definitions
- How to find area, perimeter, volume, and surface area
- Real-world applications of the Pythagorean Theorem
- Transformations like slides, flips, and turns
- Why geometry matters in everyday decisions

Review Questions:

- 1. How many degrees are in a triangle?
- 2. What's the area of a triangle with base 8 and height 5?
- 3. Find the volume of a box that is $3 \text{ ft} \times 4 \text{ ft} \times 2 \text{ ft}$.
- 4. What kind of transformation is a turn?
- 5. How does geometry help when designing a room?

- 1. 180°
- 2. 20
- 3. 24 ft³
- 4. Rotation
- 5. It helps you plan how much space you have and where to place things

Chapter 38: What They Were Trying to Tell You in Trigonometry What You'll Learn:

Trigonometry isn't as mysterious as it sounds—it's just the math of triangles, especially right triangles. In this chapter, you'll discover how to find missing angles and sides, understand how the sine, cosine, and tangent functions work, and see how trig shows up in real life—from measuring trees to designing ramps.

You'll learn how to:

- Understand sine, cosine, and tangent
- Use trig functions to find angles and side lengths in right triangles
- Apply the Pythagorean Theorem as a foundation
- Use trig in real-world scenarios like navigation and measurement
- Recognize trig patterns in graphs (optional/advanced)

Worksheet 38.1: Intro to Right Triangles

Whick Review:

In a right triangle:

- The longest side is the **hypotenuse**
- The other two sides are legs
- The angle opposite the hypotenuse is **90°**

Practice:

- 1. What is the name of the side across from the right angle? _____
- 2. True or false: The two legs in a right triangle are always the same length. _____
- 3. Use the Pythagorean Theorem to find the hypotenuse of a triangle with legs 9 and 12.

- 1. Hypotenuse
- 2. False
- 3. $\sqrt{81 + 144} = \sqrt{225} = 15$

Worksheet 38.2: Understanding Sine, Cosine, and Tangent

Definitions:

In a right triangle:

- Sine (sin) = opposite / hypotenuse
- Cosine (cos) = adjacent / hypotenuse
- Tangent (tan) = opposite / adjacent

(Use SOH-CAH-TOA to remember!)

Practice:

You're given a right triangle where:

- One angle is 30°,
- The side opposite is 5 units,
- The hypotenuse is 10 units.
- 1. Find sin(30°) = _____
- 2. If the adjacent side is $\sqrt{75}$, what is $\cos(30^\circ) =$ _____
- 3. What is tan(30°) = _____

Answer Key:

- 1. 5/10 = 0.5
- 2. √75/10 ≈ 0.866
- 3. 5/√75 ≈ 0.577

(Note: These are simplified examples. In real-life trig, you'd often use a calculator.)

Worksheet 38.3: Using Trig to Find Missing Sides

Try This:

If you know one angle and one side, you can find other sides using trig. **Practice:**

You're told:

- Angle = 45°
- Hypotenuse = 10
- 1. Find the length of the opposite side:
 - \circ sin(45°) = opposite / 10 → Opposite = _____
- 2. Find the adjacent side:

 \circ cos(45°) = adjacent / 10 → Adjacent = _____

(Use $sin(45^{\circ}) \approx 0.707$ and $cos(45^{\circ}) \approx 0.707$)



- 1. $0.707 \times 10 = 7.07$
- 2. 0.707 × 10 = 7.07
Worksheet 38.4: Real-Life Trig Applications

Real-Life Examples:

- Measuring the height of a tree using angle of elevation
- Building a ramp at the correct incline
- Determining the distance across a river
- Satellite angle positioning

Practice:

- 1. You stand 50 feet from a tree. The angle from your eye to the top is 60°.
 - Estimate the height of the tree using $tan(60^\circ) \approx 1.73$.
 - Height = 50 × 1.73 = _____
- 2. You need to build a ramp that rises 2 feet over 8 feet of length.
 - What is the angle of the ramp?
 - Use $sin(\theta) = 2/8 = 0.25$. What angle is that?

Answer Key:

1. 86.5 feet

sin⁻¹(0.25) ≈ 14.5°

(Use calculator or trig table for inverse sine)

B Worksheet 38.5 (Optional Advanced): Trig Graph Basics

Graphing the Sine Wave

Plot the following points for y = sin(x) for $x = 0^{\circ}$, 90°, 180°, 270°, 360°:

- x sin(x)
- 0° 0
- 90° 1
- 180° 0
- 270° -1
- 360° 0

Sketch the wave shape. Notice the pattern!

Chapter 38 Review Worksheet

What You Learned in This Chapter:

- Trigonometry helps solve triangle problems using angles and sides
- The trig functions (sine, cosine, tangent) are all about comparing sides
- You can apply trig to real-life situations, like building, measuring, or even space exploration
- Graphs of sine and cosine have wave patterns and repeat

Review Questions:

- 1. What does SOH-CAH-TOA help you remember?
- 2. If a right triangle has an angle of 30° and a hypotenuse of 12, what's the opposite side? (Use sin(30°) = 0.5)
- 3. What are 3 real-world places where trig is used?
- 4. Draw a triangle and label opposite, adjacent, and hypotenuse.
- 5. What's tan(45°)? Use a calculator or estimate.

- 1. How to use sine, cosine, and tangent
- 2. 6
- 3. Tree height, ramp design, distance across a river
- 4. (Student drawing)
- 5. ≈1

Chapter 39: How Classroom Math Connects to Business Math

What You'll Learn:

This chapter bridges the gap between what you learned in school and how it applies to the real world—especially in business. Math isn't just about solving problems on paper. It helps you understand prices, profits, budgeting, and more. We'll take concepts like equations, percentages, and charts and show how they make real-world business work.

You'll learn how to:

- Turn word problems into business math scenarios
- Use equations to calculate costs, profits, and budgets
- Understand units, pricing, and markups
- Make sense of charts, tables, and graphs
- Analyze trends and break-even points

Worksheet 39.1: Turning School Math into Business Math

Quick Connection:

School Math TopicBusiness Use ExampleAddition/SubtractionBalancing a cash registerMultiplicationCalculating bulk pricing or commissionsDivisionFinding unit cost or price per itemPercentsMarkups, discounts, interest, and taxes

Practice:

- 1. You're buying 5 pens for \$3 each. How much total?
- 2. You sell a product for \$20. It cost \$14 to make. What's the profit?
- 3. If you give a 25% discount on a \$100 item, what is the sale price?



- 1. \$15
- 2. \$6
- 3. \$75

Worksheet 39.2: Solving Business Equations

- Examples:
 - Revenue = Price × Quantity
 - Profit = Revenue Costs
 - Break-even Point = Fixed Costs ÷ (Price Variable Cost)

Practice:

- 1. You sell 100 t-shirts at \$15 each. Revenue = _____
- It cost you \$800 to start the business. Each item sells for \$10 and costs \$6 to make.
 What is the break-even point?
- 3. You make \$3,000 in revenue and spend \$2,100 on expenses. What is the profit?

- 1. \$1,500
- 2. 800 ÷ (10 6) = 200 items
- 3. \$900

- Worksheet 39.3: Units, Costs, and Markups
- Definitions:
 - Unit cost = total cost ÷ number of units
 - Markup = selling price cost
 - Markup percent = (markup ÷ cost) × 100

Practice:

- 1. You buy a box of 12 notebooks for \$24. What is the unit cost?
- 2. If you sell each for \$3, what's your markup per item?
- 3. What is the markup percentage?



1. \$2

- 2. \$1
- 3. $(1 \div 2) \times 100 = 50\%$

Worksheet 39.4: Reading Tables and Graphs

Try This:

Month Sales (\$)

January 1,200

February 1,500

- March 1,400
- April 1,800

Practice:

- 1. In which month were sales highest?
- 2. Which month had a dip from the previous one?
- 3. What was the total sales across all months?

- 1. April
- 2. March
- 3. \$5,900

Worksheet 39.5: Business Math Word Problems

Practice:

- 1. You start a lemonade stand with \$50 in supplies. Each cup sells for \$2 and costs \$0.50 to make.
 - What's your profit if you sell 100 cups?
- 2. You're setting prices for items that cost \$10 each. You want a 40% markup.
 - What price should you set?
- 3. A graph shows your expenses rising from \$500 to \$700 to \$900 over 3 months.
 - What's the monthly increase?

- 1. Revenue = \$200, Cost = $$100 \rightarrow Profit = 100
- 2. \$10 + (40% of \$10) = \$14
- 3. \$200/month

E Chapter 39 Review Worksheet

What You Learned in This Chapter:

- How to apply equations to real business problems
- How to calculate costs, markups, and profits
- How charts and tables show business trends
- That school math really does show up in real life!

Review Questions:

- 1. What's the formula for profit?
- 2. You spend \$50 on supplies and earn \$120 in sales. What's the profit?
- 3. What is the purpose of a break-even point?
- 4. What's a markup?
- 5. What's one way graphs are useful in business?

- 1. Profit = Revenue Costs
- 2. \$70
- 3. To know how many items you must sell before making a profit
- 4. The difference between what it costs to make something and what you sell it for
- 5. To visually show trends or patterns in sales or spending

Chapter 40: Real Life Math Capstone Project What You'll Learn:

In this final chapter, you'll bring together everything you've learned to solve real-world problems. You'll explore probability, digital math, how math is used in different careers, and finally, complete a "Living on Your Own" simulation to apply budgeting, decision-making, and financial planning skills. You'll learn how to:

- Understand basic probability and how it applies to life
- Recognize how digital math is part of your everyday world
- See how different careers use math in practical ways
- Simulate real-world adult responsibilities—like budgeting, paying rent, and managing bills

Worksheet 40.1: Everyday Probability

Whick Overview:

Probability helps us understand the *likelihood* of something happening.

- Probability = Number of favorable outcomes ÷ Total outcomes
- Probabilities range from 0 (impossible) to 1 (certain)

Practice:

- 1. You roll a 6-sided die. What is the probability of rolling a 4?
- 2. You have 3 red, 2 blue, and 5 green marbles. What is the probability of picking a blue one?
- 3. A weather app says there's a 30% chance of rain. What does that mean in everyday terms?

- 1. 1/6
- 2. 2/10 = 1/5
- 3. There's a low chance of rain, but it's possible—bring an umbrella just in case!

Worksheet 40.2: Digital Math in Real Life

Did You Know?

You use math digitally every day—without even realizing it!

- Data sizes (MB, GB, TB)
- Download/upload speeds
- Time calculations (battery %, charging time, file uploads)
- Budgeting apps and online shopping carts
- Understanding charts on fitness apps or weather graphs

Practice:

- 1. Your phone has 128 GB of space. You've used 86 GB. How much space is left?
- 2. If your download speed is 10 Mbps, how long will it take to download a 500 MB file?
- 3. You buy a \$20 item online and pay \$2 shipping and \$1.20 tax. What's your total?

- 1. 42 GB
- 2. 500 ÷ 10 = 50 seconds (approx.)
- 3. \$23.20

Worksheet 40.3: Math in Careers

Real People Use Math Too!

Career How Math is Used

Chef Measurements, timing, food cost per meal

Carpenter Geometry, measuring, converting units

Retail Worker Discounts, sales tax, inventory

Nurse Dosages, vital signs, charts

Graphic Designer Sizing, ratios, screen resolution

Entrepreneur Budgets, marketing data, profit margins

Practice:

- 1. Match each career with the math skill they need:
 - \circ Nurse → _____
 - Carpenter \rightarrow _____
 - Chef \rightarrow _____

2. Can you think of a career you are interested in? How might it use math?

Sample Answers:

1.

- Nurse → Dosages and chart reading
- Carpenter \rightarrow Measuring and geometry
- Chef \rightarrow Ratios and food costs
- 2. (Student response)

Worksheet 40.4: Living on Your Own – Part 1: Planning Your Life

🔆 Scenario:

You are 19 years old and starting life on your own. You earn \$2,000/month at your job. Let's build your budget.

Practice:

- 1. Choose your housing:
 - \circ Share a room (\$500)
 - Small apartment (\$900)
 - Rent a house (\$1,400)
- 2. Choose a car option:
 - Bus pass (\$60/month)
 - Used car (\$200/month + \$100 insurance)
 - New car (\$400/month + \$150 insurance)
- 3. Estimate other monthly costs:
 - Food = \$300
 - \circ Phone = \$50
 - Electricity = \$100
 - Fun money = \$100
- 4. Add up your total monthly expenses and subtract from your \$2,000 income. How much is left?

Example Calculation (Option 1):

Shared room (\$500) + Bus (\$60) + Food (\$300) + Phone (\$50) + Electricity (\$100) + Fun (\$100) = **\$1,110** \$2,000 - \$1,110 = **\$890 left**

Worksheet 40.5: Living on Your Own – Part 2: Smart Choices

🔆 What If...

- 1. You want to save \$100/month. Can you still afford your current lifestyle?
- 2. Your rent goes up \$100-what would you cut back on?
- 3. You want to go on vacation and need to save \$600 in 3 months. How much do you need to save per month?

Answer Key (based on example above):

- 1. Yes, \$890 left means you can save \$100
- 2. Possibly cut "fun money" or downgrade car/housing
- 3. \$600 ÷ 3 = \$200/month

Chapter 40 Review Worksheet

What You Learned in This Chapter:

- Probability helps in decision making
- Digital math shows up in phones, downloads, apps
- All careers use math in some way
- Living on your own requires real math thinking!

Final Questions:

- 1. What is one way you've seen math in the real world this week?
- 2. Which part of this course helped you the most?
- 3. Why is budgeting important—even if you have "enough" money?
- 4. Do you feel more confident using math in your daily life? Why or why not?

🗹 Real Life Math Skills Checklist		
Skill Area	Topic Covered	~
Number Operations		
Addition & Subtraction	Whole numbers, decimals, word problems	\checkmark
 Multiplication & Division 	Multi-digit numbers, long division, decimals	~
Positive & Negative Numbers	Integers, real-world examples, number line	~
Estimation & Rounding	Estimating totals, rounding decimals/money	~
Fractions, Decimals & Percents		
Converting Between Forms	Fractions \leftrightarrows Decimals \leftrightarrows Percents	~
 Operations with Fractions 	Adding, subtracting, multiplying, dividing	~
 Operations with Decimals 	All four operations, in budgeting and real math	~
Percentages	Discounts, sales tax, tips, interest	~
Measurement & Geometry		
Standard & Metric Measurement	Inches, feet, cm, liters, etc.	~
 Area, Perimeter, Volume 	Geometry used in flooring, painting, building	~
 Unit Conversions 	Recipes, travel, construction	~
Real-World Math		
 Budgeting & Spending 	Monthly budgets, saving goals	\checkmark
 Paychecks, Taxes, & Banking 	Paystubs, deductions, tax types	~
 Credit, Loans, & Interest 	APR, payment plans, credit cards	~
Rent, Insurance, & Bills	Housing costs, utilities, insurance basics	~
Shopping & Price Comparison	Unit price, big purchase math	~
► Career Math	How math is used in different jobs	~
Business & Data Math		
Profit & Loss	Business word problems, markups	~
 Charts, Graphs, & Statistics 	Reading/interpreting tables and bar graphs	~
► Probability	Likelihood, daily life scenarios	~
 Digital Math 	Download speeds, storage, online purchases	~
Living On Your Own Simulation	Final project: budgeting for adult life	~
Algebra, Geometry, Trig Basics		
Basic Equations	Solving for unknowns, formulas	~
Real-Life Algebra & Geometry	Slope, area, volume, proportion	~
Intro to Trigonometry	Triangles, sine/cosine, real use in construction	~

Optional Final Review Quiz – 50 Questions

Use this quiz to see what you remember! No pressure — answers and chapters are listed in the back if you want to revisit anything.

🥕 PART 1: N	Iultiple Choice & Short Answer (1–25)
1.	What is 25% of 80?
	A. 10
	B. 15
	C. 20
	D. 25
2.	Estimate the sum of 49.6 + 51.3
	A. 90
	B. 95
	C. 100
	D. 105
3	Which number is a nrime number ?
5.	
	B 15
	C 13
	D 21
4.	What is the greatest common factor of 18 and 24? Answer:
5.	Round 68.9 to the nearest whole number.
	Answer:
c .	
6.	
	Answer:
7.	Simplify the fraction 12/16.
	A. 3/4
	B. 2/3
	C. 4/5
	D. 5/6
8.	Write 0.25 as a fraction.
	Answer:

9. What is 3/4 of 40? **Answer:**

10. Solve: 8 + 4 × 3 = A. 36 B. 24 C. 20 D. 28 10. Divide: 45 ÷ 5 Answer: _____ 11. What is 1/3 + 1/6? A. 1/9 B. 1/2 C. 2/3 D. ¼ 12. Which decimal is the smallest? A. 0.8 B. 0.58 C. 0.65 D. 0.75 13. How much is 20% off a \$50 item?

Answer: _____

14. A recipe calls for 3/4 cup of sugar. You're making half the recipe. How much sugar do you need? Answer: _____

15. 1 yard = ____ feet A. 3 B. 6 C. 12 D. 36

- 16. What is the area of a rectangle that is 5 ft by 8 ft? **Answer:** _____
- 17. What is the perimeter of a square with 6 in sides? **Answer:** _____

18. Solve: x + 7 = 10 Answer: x = _____

20. Solve for y: 3y = 18 **Answer:** y = _____ 21. What's the difference between gross and net income?

A. Gross is what you keep after taxes.

B. Net is your total earnings before deductions.

C. Gross is total income before deductions; net is after.

D. They're the same.

22. If you earn \$12/hour and work 8 hours, how much do you make? **Answer:** _____

23. You buy 3 items for \$4.99 each. Estimate your total.

A. \$10

B. \$12

C. \$15

D. \$20

24. What's the average of: 5, 7, 8, and 10? **Answer:** _____

25. Which shows a correct use of order of operations?
A. (5 + 3) × 2 = 16
B. 5 + 3 × 2 = 16
C. 5 + 3 × 2 = 20
D. None of the above

PART 2: Real-Life Word Problems (26–40)

26. You bought groceries for \$47.35. You gave the cashier \$60. How much change do you get? **Answer:** _____

27. Your electric bill went from \$120 to \$150. What was the percentage increase? **Answer:** _____

28. You paid \$16 for a shirt on sale for 20% off. What was the original price? **Answer:** _____

29. You have a recipe that serves 8, but you need to serve 12. By what fraction do you increase it? **Answer:** _____

30. You walk 2.5 miles every day for 5 days. How far did you walk? **Answer:** _____

31. A discount of 40% off a \$75 coat saves you how much? **Answer:** _____

32. If gas costs \$3.79 per gallon and your tank holds 15 gallons, about how much to fill it up? **Answer:** _____

33. A pizza has 8 slices. You eat 3. What fraction is left? **Answer:** _____

34. You budget \$200 for food this week and spend \$176. What percent did you spend? **Answer:** _____

35. You invest \$100 at 5% interest. How much interest after 1 year? **Answer:** _____

36. Your loan payment is \$250/month for 6 months. What is the total? **Answer:** _____

37. A pair of jeans is marked 30% off. The original price is \$45. What's the new price? **Answer:** _____

38. You work 3 jobs: \$200/week, \$150/week, and \$50/week. What's your total weekly income? **Answer:** _____

39. A pie is cut into 6 pieces. You eat 2. What percent is left? **Answer:** _____

40. You are paid biweekly. If each paycheck is \$600, how much do you make in a year (52 weeks)? **Answer:** ______

ART 3: Concept Reflection (41–50) 41. What's the difference between a debit and a credit?

42. Explain the meaning of **interest** when borrowing money.

43. Why is it important to estimate before solving?

44. What does it mean to "reduce" a fraction?

45. What are three things you can do to be smart with money?

46. Name one thing you learned about budgeting.

47. What does a graph help us do?

48. Why is knowing percentages helpful?

49. What is something you learned that you can use as an adult?

50. What part of math do you feel most confident about now?

Final Quiz – Answer Key with Chapter Numbers

PART 1: Multiple Choice & Short Answer (1–25) Q# Answer Chapter 1 C. 20 Chapter 24 (Percentages) 2 C. 100 Chapter 4 (Estimation) 3 C. 13 Chapter 5 (Prime Numbers) 4 6 Chapter 6 (GCF) 69 Chapter 4 (Rounding) 5 6 56 Chapter 3 (Multiplication) 7 A. 3/4 Chapter 10 (Reducing Fractions) 8 1/4 Chapter 13 (Decimals to Fractions) 9 30 Chapter 11 (Fractions in Real Life) 10 C. 20 Chapter 9 (Order of Operations) 11 9 Chapter 3 (Division) 12 B. 1/2 Chapter 11 (Adding Fractions) 13 B. 0.58 Chapter 13 (Comparing Decimals) 14 \$10 Chapter 24 (Sales) 15 3/8 cup Chapter 11 (Fraction Multiplication) 16 A.3 Chapter 21 (Measurement Conversions) 17 40 sq ft Chapter 22 (Area & Perimeter) 18 24 in Chapter 22 (Perimeter) 19 x = 3Chapter 36 (Basic Algebra) 20 y = 6Chapter 36 (Basic Algebra) 21 C. Gross is before; net is after. Chapter 26 (Paychecks) 22 \$96 Chapter 26 (Hourly Pay) 23 C. \$15 Chapter 4 (Estimation) 24 7.5 Chapter 20 (Averages) 25 A. $(5 + 3) \times 2 = 16$ Chapter 9 (Order of Operations) PART 2: Real-Life Word Problems (26–40) Q# Answer Chapter 26 \$12.65 Chapter 15 (Subtraction with Decimals) 27 25% Chapter 24 (Percent Change) 28 \$20 Chapter 24 (Sale Price Formula) 29 Multiply by 1.5 or 12/8 Chapter 11 (Scaling with Fractions) 30 12.5 miles Chapter 21 (Multiplication with Decimals) 31 \$30 Chapter 24 (Percent Savings) 32 About \$56.85 Chapter 21 (Unit Prices & Estimation) 33 5/8 Chapter 11 (Fraction Subtraction) 34 88% Chapter 24 (Percent of Budget) 35 \$5 Chapter 27 (Simple Interest)

Q#	Answer	Chapter			
36	\$1,500	Chapter 26 (Loan Payments)			
37	\$31.50	Chapter 24 (Percent Off)			
38	\$400	Chapter 26 (Weekly Income)			
39	66%	Chapter 24 (Percentage Left)			
40	\$15,600	Chapter 26 (Annual Income Calcu	lation)		
	PART 3: Concept Reflection (41–50) – Sample Responses				
Q#	Sample Answer		Chapter		
41	A debit takes money ou	ut, a credit puts money in.	Chapter 26		
42	2 Interest is the cost of borrowing money.		Chapter 27		
43	3 Estimation helps you check your work and plan ahead.		Chapter 4		
44	Reducing a fraction me	Chapter 10			
45	5 Budget, save, spend wisely.		Chapter 25		
46	6 You can write down what you spend to track expenses.		Chapter 25		
47	7 A graph helps show patterns or changes in numbers.		Chapter 31		
48	Knowing percentages h	helps with tips, sales, and interest.	Chapter 24		
49	How to budget and ma	nage bills.	Chapter 26+Capstone		
50	Open-ended — let stud	All Chapters			