



**Sapienta**  
Academy

Sapienta Practice Worksheets

**Secondary 1 – Mathematics**

Overview Document (English Version)

## Introducing Sapienta Practice Worksheets

### What are Sapienta Practice Worksheets ?

Sapienta Practice Worksheets are designed to build and refine the *skills* students need in mathematics through a carefully structured collection of problems. These worksheets do not replace conceptual learning—they *strengthen* it by providing the practice necessary to turn understanding into mastery.

Each worksheet set includes :

- A **micro-classified sequence** of problems
- Gradual skill progression from simple to multi-step tasks
- Targeted exercises that isolate key techniques
- High-quality, exam-aligned questions designed by expert educators

Every problem is intentional : no clutter, no filler—only the skills students truly need to excel.

### Who should use these worksheets ?

- **Students** who want focused, structured practice to improve fluency
- **Tutors** who need ready-to-use problem sets for efficient sessions
- **Teachers** who want supplemental material aligned with QEP expectations

These sheets are also ideal for in-class practice, homework reinforcement, or targeted skill development.

## How to Use This Document

Sapienta worksheets are built around one simple idea : **Skills grow through deliberate practice, not random repetition.**

### For Students

- Start with early problems to warm up your skills
- Move to intermediate steps once you feel confident
- Finish with multi-step and challenge problems to build mastery
- If you're stuck, use **DiaLogos** to think through the steps—never to get the final answer

### For Tutors and Teachers

- Use micro-classified topics to target the exact skill your student needs
- Combine basic and problems in the worksheets sheets to create differentiated instruction
- Encourage verbal reasoning before symbolic manipulation

### Structure of each worksheet

1. Key skill introduction
2. Gradual build-up of techniques
3. Mixed problems
4. Multi-step and context problems

These worksheets help learners see the details, patterns, and strategies that appear in real evaluations.

## Meet DiaLogos : Your Thought Partner in Math



When students are alone with their math thoughts, without a teacher, tutor, or classmate, learning can stall. That's where **DiaLogos** steps in.

### What is DiaLogos ?

DiaLogos is Sapienta's intelligent, dialogue-based, AI tutor assistant, designed to think *with* students, not for them.

Unlike regular chatbots, DiaLogos :

- **Doesn't give away the answers**
- **Asks questions that ignite student thinking**
- **Encourages reasoning, self-explanation, and curiosity**
- **Supports students when a human guide isn't around**

**DiaLogos** is developed by a team of Quebec-certified educators, mathematicians, and professional programmers. Its mission is to expand students' *cognitive boundaries* through meaningful, thought-provoking dialogue.

Unlike traditional chatbots that offer answers too quickly and short-circuit the learning process, **DiaLogos** is designed to foster agency and reflection. It doesn't give answers, it gives students better vision and helps them understand better.

**DiaLogos** is the first tutoring assistant in Quebec built not to replace real thinking, but to complete the learning process. Whether you're stuck on a concept or trying to deepen your understanding, this AI-powered tool guides you like a curious mentor : never giving too much, always nudging you further.

Use it when you're working independently, between tutoring sessions, or anytime you want to think more clearly, more deeply, and more confidently.

## Table of Contents

### Included in this document

#### **Chapter 1 – Natural Numbers**

- Worksheet 1 : Review on Natural Numbers
- Worksheet 2 : Prime Factorization
- Worksheet 3 : GCF and LCM
- Worksheet 4 : Operations and Order of Operations
- Worksheet 5 : Mixed Problems

#### **Chapter 2 – Whole Numbers**

- Worksheet 1 : Zero and Negative Numbers
- Worksheet 2 : Operations in Whole Numbers (Add, Subtract, Multiply, Divide, Exponents)
- Worksheet 3 : Combined Expressions and Order of Operations
- Worksheet 4 : Mixed Problems

#### **Chapter 3 – Rational Numbers as Fractions**

- Worksheet 1 : Fractions
- Worksheet 2 : Operations with Fractions (Add, Subtract, Multiply, Divide)
- Worksheet 3 : Order of Operations with Fractions
- Worksheet 4 : Mixed Problems

#### **Chapter 4 – Decimals and Percentages**

- Worksheet 1 : Decimal Representation
- Worksheet 2 : Percentages and Conversions
- Worksheet 3 : Decimal-Fraction-Percent Translations
- Worksheet 4 : Mixed Problems

#### **Chapter 5 – Geometry and Reasoning**

- Worksheet 1 : Types of Angles
- Worksheet 2 : Assertion and Justification Tables
- Worksheet 3 : Triangle and Polygon Angle Relationships
- Worksheet 4 : Mixed Problems

#### **Chapter 6 – Statistics**

- Worksheet 1 : Mean, Median, Mode
- Worksheet 2 : Weighted Means
- Worksheet 3 : Statistical Graphs and Interpretation
- Worksheet 4 : Mixed Problems

### Included in this document

#### **Chapter 7 – Introduction to Algebra**

- Worksheet 1 : Sequences and Patterns
- Worksheet 2 : Algebraic Reasoning Foundations
- Worksheet 3 : Mixed Problems