



Sapienta
Academy

Sapienta Exam Preparation

Secondary 4 – SO Mathematics

Overview Document (English Version)

Introducing Sapienta Exam Preparation

What are Sapienta Exam Preparation Documents ?

Sapienta Exam Preparation documents provide students with high-quality, realistic exam experiences. They are designed to reflect the level of complexity and structure found in most formal school and ministry evaluations.

Each chapter includes :

- **Six standard exams** (three C1-evaluations and three C2-evaluations)
- A variety of question types (procedural, conceptual, and contextual)
- Ministry-style phrasing, layout, and point weighting (Multiple Choice, Short Answer Questions, and Long Answer Questions)

In addition, the booklet contains :

- **Six comprehensive final exams** covering all topics (three C1 and three C2)
- Separate documents for full solutions (to discourage over-reliance while practicing)

These exams follow the QEP Progression of Learning and prepare students for real evaluation conditions.

Who should use these documents ?

Students who want authentic preparation before real evaluations.

Teachers who need exam-style materials aligned with the QEP.

Tutors who want structured, realistic assessments to identify strengths and learning gaps.

Parents can also use this document to understand the type of formal evaluations students face at their school.

How to Use This Document

These exams will best prepare students for their school evaluations if completed as **real evaluations**, under timed and quiet conditions.

Students should :

- Attempt each exam without looking at solutions
- Improve their time management skills through time management strategies
- Correct their own work using the separate solutions document
- Discuss errors with their school teacher, Sapienta tutor, classmates, or **DiaLogos**

Important : If you do not know how to solve a question, move on. Learning happens through reflection during correction — not through copying solutions.

Repeated practice across chapters builds exam confidence.

Understanding C1 and C2 Evaluations

In the Quebec Education Program, math evaluations fall into two broad categories :

C1 – To Solve a Situational Problem Related to Mathematics

Based on the documents released by the ministry of education students who show advanced competency 1 development produce accurate solutions or solutions containing minor errors (miscalculations, inaccuracies, omissions, etc.). They show their work leading to a solution in a complete and structured manner, while observing the rules and conventions of mathematical language that are intended for their cycle. They also validate the main steps and rectify them, if necessary. When required to account for their solution, they explain and justify all the steps involved.

C2 – To Reason Using Mathematical Concepts and Processes

According to the ministry, students who have advanced competency in reasoning in mathematics Identify the elements and actions, and choose mathematical concepts and processes that enable them to meet situation requirements efficiently. They apply the require concepts and processes appropriately and without error. They also show a complete line of reasoning, while observing the rules and conventions of mathematical language that are intended for their cycle. They use rigorous mathematical arguments when required to support their actions, conclusions or results.

This document includes both C1 and C2 exams. Students develop mathematical and methodological skills to successfully pass evaluations assessing both competencies.

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 – Algebra of Polynomials and Rational Expressions

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 2 – Quadratic Functions

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 3 – Systems of Linear and Quadratic Equations

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 4 – Analytic Geometry

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 5 – Triangles and Geometric Reasoning

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 6 – Trigonometry

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Chapter 7 – Statistics

- Exams 1-3 (C2)
- Exams 4-6 (C1)

Comprehensive Final Exams

- Exams 1-3 (C2)
- Exams 4-6 (C1)

These exams simulate the structure, depth, and pacing of real formal academic assessments.