

MPM2DE

PRINCIPLES OF
MATHEMATICS,
GRADE 10,
ENRICHED

Course description

(from the Ontario Ministry of Education)

This course enables students to broaden their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and abstract reasoning. Students will explore quadratic relations and their applications; solve and apply linear systems; verify properties of geometric figures using analytic geometry; and investigate the trigonometry of right and acute triangles. Students will reason mathematically and communicate their thinking as they solve multi-step problems.



Past students of this course discuss approaches to factoring and expanding polynomials at the whiteboard. By discussing your ideas in the safety of a small group, but also by reviewing and discussing problem solving approaches with other students and your teacher, you will be actively engaged in the learning process in every class.

What does a typical class look like?

This course emphasizes problem-solving, reflection, and active consolidation of your understanding of mathematics each day. How will you do this?

Most days, when you arrive at class, you will immediately move to a whiteboard and work within a randomized group of your peers. As you make progress on the first problem, supported and encouraged by your teacher, you will discuss another problem, and so on. This forms the first 15 to 20 minutes of a 95 minute period.

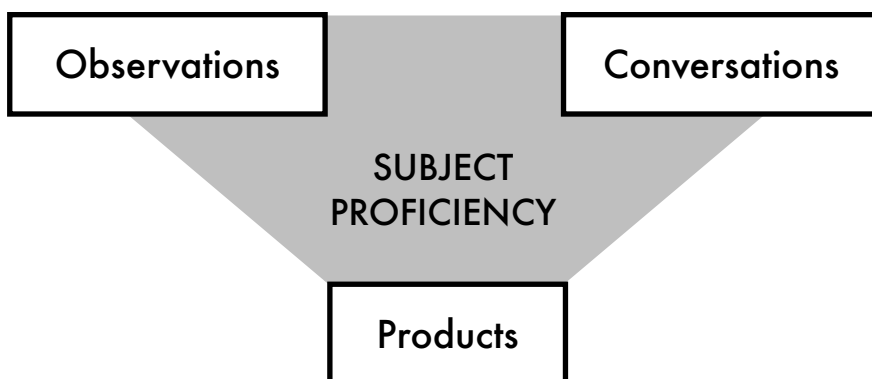
Afterwards, you will begin a guided investigation with a peer or participate in a full class conversation about a new topic or concept. Class will conclude with an opportunity to learn: where you apply the concepts that were explored to answer questions within a problem set.

How will I earn my grade?

Your grade is earned through conversations and observations of your work each day in class, together with products in the form of written evaluations or hands-on tasks.

Sometimes these will be assessments for learning, where your teacher provides anecdotal feedback to help you grow as a mathematician. Sometimes these will be assessments as learning, where you reflect on your result and identify next steps for improvement. Sometimes these will be assessments of learning where your achievement on a significant written assessment or hands-on task will be determined by your teacher.

A portion of your grade this year is earned by participation and attendance as well; see below.



Observations, conversations, and products are all valid forms of evidence.

A combination of these forms of evidence is used to triangulate – that is, determine – your proficiency in this course.

Formal grade weightings

Classroom Work:	65%
Knowledge:	25%
Thinking:	25%
Communication:	25%
Application	25%
Exam:	20%
Participation and Attendance:	15%
Total	100%

Units of study

Using a problem-based approach to teaching and learning, we will progress through topics of study in this course in the following order:

- Linear Systems
- Quadratic Relations
- Quadratic Expressions
- Quadratic Equations
- Analytic Geometry
- Trigonometry

Required resources

Online materials, both external to The Grove, and those authored by your teacher, will be made available throughout the course. There is no required textbook. You will be asked to authorize the purchase of access to IXL; this is an online resource that will offer you the ability to complete additional practice with key skills. Please have a scientific calculator with you in class each day, a three-ring binder, lined paper, graph paper, pencil, pen, an eraser, a ruler, and a protractor – as needed, find these items in the school store.

Absences

If you miss a class, please consult our class website to understand what was discussed – actively reviewing the problems considered and example solutions provided from the lesson. You should then attempt the assigned practice questions and be ready to show this work to your teacher in the next class. Use Grove Time to seek assistance in person, as needed.