

# Mathematics 10 – Common (Honours)

## Outline and Course Expectations

**Primary Resource:** Foundations and Pre-Calculus Mathematics 10

### General Course Outcomes:

Students will

- Solve problems that involve linear measurement using SI and imperial units of measure, estimation strategies, and measurement strategies.
- Apply proportional reasoning to problems that involve conversions between SI and imperial units of measure.
- Solve problems, using SI and imperial units, that involve the surface area and volume of 3D objects.
- Develop and apply the primary trigonometric ratios to solve problems that involve right triangles.
- Demonstrate an understanding of factors of whole numbers by determining the prime factors, greatest common factor, least common multiple, square root and cube root.
- Demonstrate an understanding of irrational numbers.
- Demonstrate an understanding of powers with integral and rational exponents.
- Demonstrate an understanding of the multiplication of polynomial expressions.
- Demonstrate an understanding of common factors and trinomial factoring.
- Interpret and explain the relationship among data, graphs and situations.
- Demonstrate an understanding of relations and functions.
- Demonstrate an understanding of slope with respect to rise and run, line segments, rate of change, parallel lines and perpendicular lines.
- Describe and represent linear relations using words, ordered pairs, table of values, graphs, and equations.
- Determine the characteristics of the graphs of linear relations.
- Relate linear relations expressed in slope-intercept form, general form, and slope-point form to their graphs.
- Determine the equation of a linear relation, given a graph, a point and the slope, two points, and a point and the equation of a parallel or perpendicular line.
- Represent a linear function, using function notation.
- Solve problems that involve systems of linear equations in two variables, graphically and algebraically.

### Units of Study:

Topic	Textbook Chapters	Approximate Classes	Weighting %
Measurement	Chapter 1	10	11
Trigonometry	Chapter 2	10	11
Factors and Products	Chapter 3	10	10
Roots and Powers	Chapter 4	10	10
Relations and Functions	Chapter 5	10	11
Linear Functions	Chapter 6	10	11
Systems of Linear Equation	Chapter 7	10	11
Projects Included in Selected Chapters		4	
Final Review and Exam		5	25

### Within each chapter of study:

Daily Assignments	15%
Unit Exams, Quizzes and Projects	85%

## Responsibility

1. It is your responsibility as a student to have all of your homework completed prior to class; including checking and corrections.
2. It is your responsibility as a student to ask a question when you don't understand.
3. It is your responsibility as a student to help create a positive learning environment in the classroom.

## General Tips for Math

1. Always ask a question when you **FIRST** become confused – never go home with the plan to “*figure it out later.*”
2. Use class time productively; listen actively and take clear notes.
3. Math is a skill best acquired by practice – do **ALL** of your homework **EVERY NIGHT!**
4. Predict or estimate answers, and then check them against your final answer. This will help avoid most careless errors.
5. Show all of your work, step by step, to avoid mistakes and gain part marks even if your final answer is incorrect.
6. **Extra help is available by appointment.** Students must have specific questions and have caught up on any missed notes before extra help will be given.

## Classroom Expectations

1. **POSITIVE PARTICIPATION** is essential to this class. Students are expected to interact with each other, support and encourage academic achievement, orally explain and elaborate upon concepts being learned and be accountable for their learning.
2. **RESPECT** for others is crucial and expected.
3. Please arrive to class **ON TIME** and prepared to work with your workbook, your binder/notebook, a pen/pencil for writing and one of a different color for **corrections** or highlighting, and a **TI-83** or **TI-84** calculator.
4. Hand in all assignments on the date specified. Assignments that are late without a valid extension will be accepted up to 3 days after the due date and will be penalized 15% /day.
5. Missed tests must be completed immediately upon your return to class and on your own time. You are responsible to make arrangements to make up the test. Quizzes and tests missed due to an **unexcused absence** will receive a grade of zero.
6. Cell phones are **NOT** to be used in the class at any time. Please see the student handbook for more information on this school-wide policy.
7. Individual music devices will **NOT** be allowed during my classes.

## Missed Classes:

Missing a math class for any reason other than an illness is not acceptable. Due to the large number of students missing classes for a variety of other reasons extra help is reserved for those students who have attended class but are having difficulty understanding the concepts taught; and for students who have been away because they are sick. You are expected to learn ALL concepts missed due to your illness. To best help you learn these concepts we need you to follow these simple steps:

1. All daily homework assignments can be found on twitter at <http://twitter.com/#!/MrBriner> or you can go to my webpage at [www.stachs.ca](http://www.stachs.ca).
2. Work through ALL of the examples presented in class.
3. Attempt all of the homework questions assigned.
4. Arrange for extra help from your teacher. At this point you and the teacher will be best prepared able and willing to help you learn the topics that were covered while you were ill.

Mr. Briner

You have chosen to take the highest level math course offered in Grade 10 in Alberta. This is a challenging course. This course is designed for students who wish to attend NAIT or university. You will have to maintain excellent attendance and develop even better work habits, listening skills and study skills to be successful in this course. Extra help is available. ASK!! Be ready to be challenged every day! If this sounds exciting to you; then welcome to Math 10C. You are in the right place!