Grade 10 – Cultural, Social & Technical (CST) Math

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 Room 214

Overview:

Welcome back! I hope you enjoyed your summer and are ready for grade 10 CST Math! We are going to have a busy year. This course is jammed-packed & is a graduation requirement! To do well in the course, you will need to develop your problem solving skills by practicing solving questions, and lots of them!

Course Outline:

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| --- | --- | --- | --- |
|  | Content | Visions | # Classes |
| Term 1 | Functions, Inequalities & Systems | Chapt 1 & 4 | 28 classes |
| Term 2 | Analytical Geometry | Chapt 1 | 15 classes |
|  | Midterm Review | ---------- | ~ 4 classes |
| Term 2 /Term 3 | Triangles – Isometric, Similar & Trigonometry | Chapt 3 & 5 | 25 classes |
| Term 3 | Mid-Year Review | ---------- | 4 classes |
| Probability | Chapt 6 | 11 classes |
| Stats | Chapt 2 | 13 classes |
| Year-End Review | ---------- | ~10 classes |

Course Evaluation:

You will be evaluated in two different areas.

|  |  |  |
| --- | --- | --- |
|  | Competency 1 (30%)Solves a Situational Problem | Competency 2 (70%)Uses Math Reasoning |
| Criteria: | * Understanding the problem
* Solving steps correctly
* Having & validating appropriate steps & answer
 | * Knowing what steps to do
* Applying & solving steps correctly
* Justifying work
* Organization
* Making generalizations or conclusions (conjecture)
* Proving or disproving
 |
|  |  |  |
| Breakdown: | Situational Problems:(1-2 per term) | 100% | Tests: | 60% |
| Quizzes: | 15% |
| Assignments:Notebook: | 20%5% |
|  |
| Mid-Year Evaluation Situation (Midterm): | There will be C1 & C2 midterm exams that will be considered in your term 3 mark. |
|  |
| Final Evaluation Situation (Exam): | There will be a 2-hour C1 final situational problem (exam) and a 3-hour C2 final Ministry exam during June. The C1 exam will be worth 40% of the year’s C1 mark. Therefore each term’s C1 mark will be worth 20% to make up the remaining 60%. However, the C1 exam mark will be shown (calculated) within “term 3” on the report card.The C2 exam will be worth 50% of the year’s C2 mark. The C2 exam is a Ministry exam & will therefore also be moderated. The remaining 50% of the year C2 mark will come from the C2 term marks (term 1 = 10%, term 2= 10% and term 3 = 30% as determined by the Ministry). The C2 exam mark will appear separately on the report card & will be calculated within the final result. |

Materials Needed:

Please bring the following materials to every class.

|  |  |  |
| --- | --- | --- |
| * Textbook
 | * 3 – ring binder
 | * Lots of Paper (lined, graph)
 |
| * Notebook
 | * Pens or Pencils
 | * Calculator
 |
| * Colored pencils
 | * Eraser
 | * Completed Homework
 |
| * Dividers (5)
* School Agenda
 | * Highlighter
 | * Ruler
 |

Absence from Class:

You are responsible for catching up on class notes and completing any homework, assignments, quizzes or tests for which you were absent. Any missed work not completed will result in a mark of zero. If you are aware of your absence in advance, please let me know.

Missing a Test or Quiz:

Tests must be written on the scheduled day. Dates will be given at the start of each chapter (1 - 2 weeks in advance). If you know ahead of time that you will be away for a test, alternative arrangements must be made with me before the test date. If an unexpected absence from a test occurs, a parental note indicating the reason for missing the test or medical note may be required. In such cases, missed tests must be written on Wednesdays after school. If your absence cannot be justified by a note or if you do not make up the test during the appointed time, a mark of zero will be assigned.

Lates:

1. Lates to class will be recorded. Chronic lates will result in detention time, a phone call home or a visit to the office.
2. Late assignments will be penalized 10% per class.

Homework & Assigned Work:

Success in this course is very much linked to practice! Therefore, homework will be mandatory and assigned for every class. You will often be given time in class to start assigned work. If you are on task, you should be able to complete the work in class. Work completion will be checked & completion marks will be assigned & will contribute to your attitude to study. Uncompleted work will result lunchtime detentions. Chronic incomplete homework may result in an email home or a visit to the office or guidance.

Extra Help:

This course will be very busy and we will move quickly. If you are experiencing difficulties, missed a concept, or require clarification PLEASE come see me or a classmate ASAP for extra help. Schedule for extra lunchtime help will be posted.

Special Considerations:

If you have any considerations that I should be aware of, please come see me.

Class Success:

To be successful in this course, you will need to:

|  |  |
| --- | --- |
| * PRACTICE, PRACTICE, PRACTICE
* Positive Attitude
* Come See Me for Extra Help
 | * TRY YOUR BEST
* Come to Class Prepared to Learn & Work
* Complete all your own Work
 |

Math CST 10 Outline

|  |  |  |  |
| --- | --- | --- | --- |
| Class # | **Unit** | **Topic** | **Assessment &****Homework** |
|  |  | * Course Outline, Expectations
 |  |
|  | **Functions, Inequal & Sys** | * Intro to Functions – table of values, rules, constant function, linear function
 | ***Daily problems from Math 3000 or Visions textbook*** |
|  |  | * Linear Function – rule, rate of change, words to rule, solving for x & y, solving for slope  (grade 9 review)
 |  |
|  |  | * Linear Function – rule, rate of change, words to rule, solving for x & y, solving for slope  (grade 9 review)
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * **QUIZ**
* Linear Inequalities
 |  |
|  |  | * Linear Inequalities
 |  |
|  |  | * **QUIZ**
* Exponential function
 |  |
|  |  | * Exponential Function – rule & graph
 |  |
|  |  | * Exponential Function – Words (%, pop, $)
 |  |
|  | ***End Sept*** | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **QUIZ**
* Quadratic Function
 |  |
|  |  | * Periodic Function
 |  |
|  |  | * Periodic Function
* ***Overflow….***
 |  |
|  |  | * Step Function
 |  |
|  |  | * Step Function
* ***Overflow…***
 |  |
|  |  | * **QUIZ**
* Piecewise Function (notation important)
 |  |
|  |  | * **Assignment #3**
 | * **Assignment #3**
 |
|  | ***Oct 22nd***  | * **TEST – C2**
 |  |
|  |  | * **QUIZ**
* Systems – graph, table of values, given words & also visually with other functions
 |  |
|  |  | * Solving Systems – (review using word problems)
 |  |
|  |  | * Solving Systems – (review using word problems)
 |  |
|  |  | * Solving Systems – difficult problems – like old 436 problems
 |  |
|  |  | * Solving Systems – y=ax+b & word problems (“2 more than 3 times…)
 |  |
|  |  | * **Assignment #5**
 | * **Assignment #5**
 |
|  | ***Nov 8th*** | * **TEST – C2**
 |  |
|  |  | * **Training – Sit Prob**
 |  |
|  |  | * **SITUATIONAL PROBLEM – C1**
 |  |
|  | **Analytical Geometry** | * Distance between two points
 |  |
|  |  | * Midpoint & Division Point
 |  |
|  |  | * Division Point
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * **QUIZ**
* Perpendicular & Parallel Lines
 |  |
|  |  | * Perpendicular & Parallel Lines
 |  |
|  |  | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **QUIZ**
 |  |
|  |  | * Putting everything together
 |  |
|  |  | * Putting everything together
 |  |
|  |  | * **Assignment #3**
 | * **Assignment #3**
 |
|  |  | * **TEST – C2**
 |  |
|  |  | * **Assignment #4 – situational prob**
 | * **Assignment #4**
 |
|  |  | * **Assignment #5 – situational prob (visions)**
 | * **Assignment #5**
 |
|  |  | * **SITUATIONAL PROBLEM – C1**
 |  |
|  | **Triangles – Isometric, Similar & Trig** | * Angles (complementary, supplementary, corresponding, alt interior)
 | * ***\*For regular CST students only***
 |
|  | ***Dec 15th*** | * Isometric Triangles – SSS, SAS, ASA
 |  |
|  |  | * Similar Triangles – SSS, SAS, AAA
 |  |
|  | ***Xmas Holidays*** | * Similar Triangles – SSS, SAS, AAA
 |  |
|  |  | * Similar Triangles with Proportionalities & missing sides including *x*
 |  |
|  |  | * Similar Triangles with Proportionalities & missing sides including *x*
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * Similar Triangles – exam type ques **–** Formal Proofs, Counter-example, Validation
 |  |
|  | ***Midterm break*** | * **QUIZ**
* Metric Relations
 |  |
|  |  | * Metric Relations
 |  |
|  |  | * Metric Relations
* ***Overflow class….***
 |  |
|  |  | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **QUIZ**
* Trig – solving sides
 | * ***Note: For repeaters only teach sine law!!!***
 |
|  |  | * Trig – solving angles
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * Trig – Complex Problems
 |  |
|  |  | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **QUIZ**
* Sine Law
 |  |
|  |  | * Sine Law – Complex Problems
 |  |
|  |  | * **QUIZ**
* Area of Triangles x3
 |  |
|  |  | * **Assignment #3**
 | * **Assignment #3**
 |
|  |  | * **Assignment #4**
 | * **Assignment #4**
 |
|  |  | * ***Overflow***
 |  |
|  | ***Spring Break*** | * **TEST – C2**
 |  |
|  |  | * **SITUATIONAL PROBLEM – C1**
 |  |
|  | **Mid-Year Review** | * **Review**
 |  |
|  |  | * **Review**
 |  |
|  |  | * **TEST – C2**
 |  |
|  |  | * **SITUATIONAL PROBLEM – C1**
 |  |
|  | **Probability** | * Intro to Probability
 |  |
|  |  | * Odds
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * **QUIZ**
* Expected Value
 |  |
|  |  | * Expected Value – betting
 |  |
|  |  | * Expected Value – x
 |  |
|  |  | * Expected Value
 |  |
|  |  | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **Assignment #3**
 | * **Assignment #3**
 |
|  |  | * **TEST – C2**
 |  |
|  |  | * **SITUATIONAL PROBLEM – C1**
 |  |
|  | **Stats** | * Intro to stats – mean, median, mode
 |  |
|  |  | * Percentiles
 |  |
|  |  | * **Assignment #1**
 | * **Assignment #1**
 |
|  |  | * **QUIZ**
* Mean Deviation
 |  |
|  |  | * **Assignment #2**
 | * **Assignment #2**
 |
|  |  | * **QUIZ**
* Linear Correlation
 |  |
|  |  | * Estimating Correlation Coefficient
 |  |
|  |  | * **Assignment #3**
 | * **Assignment #3**
 |
|  |  | * **QUIZ**
* Regression Line
 |  |
|  |  | * Regression Line
 |  |
|  |  | * **Assignment #4**
 | * **Assignment #4**
 |
|  |  | * **Assignment #5**
 | * **Assignment #5**
 |
|  |  | * **TEST – C2/C3**
 |  |
|  | **Midterm review used Jan 14 - 21** |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **Year-End Review** |  |  |
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| --- |
| * Properties of Functions – range, domain, max, min, increasing, decreasing, positive, negative
 |
| * Properties of Functions– range, domain, max, min, increasing, decreasing, positive, negative
 |