

**MATHEMATICS 10-C**

Syllabus – Take good care of me!

Mrs. Orchard – Semester II, 2019-2020

**Name:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Required Materials**

*Foundations and Pre-Calculus Mathematics 10* textbook, a binder, a pencil, and an approved graphing calculator (TI 83 Plus, TI 84, or TI 84 Plus).

|  |  |  |
| --- | --- | --- |
| **Unit (Chapter)**  | **Classes** | **Exam Date Exam mark** |
| 1. Trigonometry (2) | 10 | Thursday, February 20 \_\_\_\_\_\_\_\_ |
| **EXAM 1** | 1 |  |
|  |  |  |
| 2. Roots and Powers (4) | 11 |  |
| **EXAM 2** | 1 | Tuesday, March 10 \_\_\_\_\_\_\_\_ |
|  |  |  |
| 3. Factors and Products (3) | 11 |  |
| **EXAM 3** | 1 | Thursday, March 26 \_\_\_\_\_\_\_\_ |
|  |  |  |
|  |  |  |
| 4. Relations and Functions (5) | 9 |  |
| **EXAM 4** | 1 | Tuesday, April 21 \_\_\_\_\_\_\_\_ |
|  |  |  |
| 5. Linear Functions (6)  | 12 |  |
| **EXAM 5** | 1 | Friday, May 8 \_\_\_\_\_\_\_\_ |
|   |  |  |
| 6. Systems of Linear Equations (7) | 12 |  |
| **EXAM 6** | 1 | Friday, May 29 \_\_\_\_\_\_\_\_ |
|  |  |  |
| 7. Measurement (1) | 9 |  |
| **EXAM 7** | 1 | Friday, June 12 \_\_\_\_\_\_\_\_ |
|  |  |  |
| Review |  |  |
| ***Final Exam***  |  | Thursday, June 18 |
|  |  |  |

**Supplies**

Students should maintain an ***organized*** binder for mathematics; a shared binder with other subjects is acceptable. Binders should include all notes provided from the board or overhead, any notes (or exercises and examples) provided in photocopied form, and daily exercises and homework assignments. Binders may be arranged in any appropriate manner but should be organized so that material for a particular unit can be easily located. Student binders should be available for the teacher to review if requested.

**Note**: This syllabus is available on my microsite page. **Contact info**: alice.orchard@eips.ca

**Evaluation**

If you are absent for an exam, you are required to write the exam **upon your return** at an agreed upon time and location.

|  |  |  |
| --- | --- | --- |
|  **Categories**  | **Chapters**  | **Weight (% of course)** |
| Measurement  | 1: Measurement  | 8  |
| Trigonometry  | 2: Trigonometry  | 8  |
| Factors and Products  | 3: Factors and Products  | 13  |
| Roots and Powers  | 4: Roots and Powers  | 10  |
| Relations and Functions  | 5: Relations and Functions  | 9  |
| Linear Functions  | 6: Linear Functions  | 12  |
| Linear Systems  | 7: Linear Systems  | 10  |
| Final Exam  | 30  |

Summative Assessments:

There will be a unit exam after each unit. In addition to the 7 unit exams, assignments designed to promote understanding will occur throughout the course**. Staying on task and keeping pace with the class is important**. With this in mind, UNIT STUDY NOTES should be presented to me **prior** to each unit exam in order for me to consider granting a re-write opportunity.

Opportunity to improve an exam mark will be offered twice throughout the semester. Rewrite opportunities will be at the teacher’s discretion after you have filled out a re-write form and have displayed evidence of practice and attention to further your learning. The mark you achieve in class will be worth 70% of your final Math 10C mark, leaving the final exam worth 30% of your final mark.

Formative Assessment:A variety of assessment tools will be used. Formative assessment is the ongoing practice of learning to measure student understanding of the course material. Homework, quizzes, self-checking activities and other assignments are designed to gauge understanding on a regular basis. Specific and descriptive feedback shared in face to face discussions with students, peer assessment and/ or group work will be used to improve the quality of student learning. In addition, students will be given a syllabus of the course that includes the following:

* Couse outline with anticipated exam dates
* Class expectations
* Key learning outcomes
* Assignments
* Space to enter personal notes
* Formula sheet

**Classroom Expectations**

1. **Give your best effort every day; ask questions when you don’t understand.**
2. Attend class regularly.
3. Conduct yourself in a **courteous**, **respectful** manner and comply with all school rules listed in the online student agenda.
4. If you are late, get a late slip and enter class in a respectful manner.
5. Use washrooms and get drinks before class begins.
6. Be sitting at your desk when the bell rings.
7. Bring your required materials to class every day (pencil, textbook, paper, calculator).
8. Limit consumption of any food or drink during class, except for water.
9. Not use personal electronics (phones, music, games) unless directed to do so. It is expected that your personal device will be left in your locker or in the red pouch during class.
10. Review notes and class work every night and complete homework as assigned. **DON’T PRACTICE UNTIL YOU GET IT RIGHT. PRACTICE UNTIL YOU DON’T GET IT WRONG.**
11. Preparation to leave the classroom at the end of the period includes ensuring that your work area is neat.

**Unit 1 – TRIGONOMETRY Ch 2**

DATE Sections

2.1 The Tangent Ratio – page 70

Assignment: page 75: 3-5, 7-9, 10 PC2, 11-13, 17, **19, 20**

2.2 Using the Tangent Ratio to Calculate Lengths – page 78

Assignment: page 82: 3-6, 8, 10, 11

2.4 The Sine and Cosine Ratios – page 89

Assignment: page 95: 4-15

2.5 Using the Sine and Cosine Ratios to Calculate Lengths – page 97

Assignment: page 101: 3-12, **13, 14**

2.6 Applying Trigonometric Ratios – page 105

Assignment: page 111: 3-16

2.7 Problem Solving – page 113

Assignment: page 118: all

**Things to watch out for:**

**Unit 2 - ROOTS & POWERS Ch 4**

DATE Sections

4.1 Estimating Roots – pg 204

Assignment: page 206: 2, 3, 4a, 5, 6

4.2 Irrational Numbers – pg 207

Assignment: page 211: 2-5, 10, 12, 14, 15

4.3 Mixed and Entire Radicals – pg 213

Assignment: page 218: 4,5,7

9, 10(PC5), 11 (PC5), 12 (PC5), 13-25 (19 a only), 22 (PC1), 24 and 25 optional

4.4 Fractional Exponents and Radicals – pg 222

Assignment: page 227: 1, 2 together, 3-12, 15-21

4.5 Negative Exponents and Reciprocals – pg 229

Assignment: page 233: 3, 4 PC2, 5-8, 9 acdfg, 10-13 (class), 14-19

 + memorize laws

4.6 Applying the Exponent Laws – pg 237

Assignment: page 242: 2-8, 9 simplify only, 10 PC2, 11 simplify only, 12-14, 15 PC2, 16 PC2, 17, 10, 22a

**Things to watch out for:**

**Unit 3 – FACTORS & PRODUCTS Ch 3**

DATE Sections (chapter 3)

3.1 Factors and Multiples of Whole Numbers – pg. 134

Assignment: page 140 5-7, 10ace, 11ac, 21,22

Polynomials – naming, classifying, operations

Assignment: worksheets

3.7 Multiplying Polynomials – pg. 182

Assignment: PART 1 : page 186: 5 cef, 6 PC4, 7a, 18 PC2, page 194: 4

 PART 2 : page 177 : #8; page 186 : 17, 8, 11, 14, 15 ace, 19ace, 21 ace

3.3 Common Factors of Polynomials – pg. 148

Assignment: page 155: 7 bdf, 8-10 ace, 12a, 14 ac, 16 ace, 18

3.5 Polynomials when a = 1 – pg. 159

Assignment: page 166: 11 aceg, 13, 14 aceg, 15 ac, 17, 19 - 21

3.6 Polynomials when a ≠ 1 – pg. 168

Assignment: page 177: 13 aceg, 15 aceg, 16, 19 aceg, 12, 14b, 18

3.8 Factoring Special Polynomials – pg. 188

Assignment: page 194: 6, 10 aceg, 13 ac, 21 ace

 7a, 8, 12 acd, 13 bd

**Chapter Review and Practice Test** – pg. 196, 201

**Things to watch out for:**

**Chapter 2, 3, & 4 Cumulative Review** pg. 252-253, 458-459

**Unit 4 – RELATIONS & FUNCTIONS Ch 5**

DATE Sections

5.1 Representing Relations – pg. 256

Assignment: page 262: 3, 4, 9, 10, 13, 14

5.2 Properties of Functions – pg. 264

Assignment: page 270: 4-8, 11, 14-18

5.3 Interpreting and Sketching Graphs – pg. 276

Assignment: page 281: 3-5, 8, 10, 12, 13, 16, 18

5.5 Graphs of Relations and Functions – pg. 287

Assignment: page 294: 4, 6-9, 11-12, 15, 16, Dom and range activity

5.6 Properties of Linear Relations – pg. 300

Assignment: page 308: 3-7, 15-17

5.7 Interpreting Graphs of Linear Functions – pg. 311

Assignment: page 319: 4 - 6, 10, 11, 16

**Things to watch out for:**

**Unit 5 – LINEAR FUNCTIONS Ch 6**

DATE Sections

6.1 Slope of a Line – pg. 332

Assignment: page 340: 6-9, 11, 13, 15-17, 20, 22, 23, 24a, 26

6.2 Slopes of Parallel and Perpendicular Lines – pg. 344

Assignment: page 349: 3ad, 4cb, 5cd, 6bc, 8bd, 9-11, 13, 16, 17, 19, 22

6.3 Investigating Graphs – pg. 354

Assignment: page 356: 1a, 3-7

6.4 Slope y-intercepts Form of an Equation – pg. 357

Assignment: page 362: 4abef, 5, 6 ab, 7-9, 11-22

6.5 Slope-Point Form of an Equation– pg. 365

Assignment: page 372: 4, 6, 8-10, 12, 14a, 16, 19, 22, 25

6.6 General Form of an Equation – pg. 377

Assignment: page 384: 4-7, 9, 17-19, 24

**Things to watch out for:**

**Unit 6 – SYSTEMS OF LINEAR EQUATIONS Ch 7**

DATE Sections

7.1 Developing Systems of Linear Equations – pg. 394

Assignment: page 401: 1-18

7.2 Solving a System Graphically – pg. 403

Assignment: page 409: 3bd, 4b, 5, 6, 7bd, 8, [9, 11, 12, 15, 16] -later

7.4 Solving a System Using Substitution – pg. 416

Assignment: page 425: 4, 5, 6b, 8, 19

7.5 Solving a System Using Elimination – pg. 428

Assignment: page 437: 3, 4, 6bd, 7b, 8-10, 12ad, 13, 17, 19

7.6 Properties of Systems of Linear Equations – pg. 442

Assignment: page 448: 4, 7, 8, 10, 11, 22

7.3 Using Technology to Solve Graphically – pg. 411

Assignment: page 412: 1-5

Word problems: page 425: 11, 12, 15-18, 24

**Things to watch out for:**

**Unit 7 – Measurement Ch 1**

DATE Sections

1.1 Imperial Measures of Length- Pg. 4

Assignment: page 11: 3, 6-8, 11-14, 18, 19, 21

1.3. Relating SI and Imperial Units- Pg. 16

Assignment: workbook assignment

1.2 Measuring Length and Distance- Pg. 13

Assignment: page 22: 4 PC3, 5, 6, 8, 9, 11, 13

1.4 Surface Areas of Right Pyramids and Right Cones- Pg. 26

Assignment: page 34: 4-10, 15, 18

1.5 Volumes of Right Pyramids and Right Cones- Pg. 36

Assignment: page 42: 4-9, 11, 12, 14

1.6 Surface Area and Volume of Spheres- Pg. 45

Assignment: page 51: 3 and 4 PC2, 5, 7-12, 15, 17, 20, 21

1.7 Solving Problems Involving Objects- Pg. 55

Assignment: page 59: 3, 5, 8, 9, 10b

**Things to watch out for:**

**Math 10C Formula Sheet**

|  |
| --- |
| **Area and Volume Formulas** |
| Key |  |  |  |
| *b* = base | *l* = length | *V* = volume | *d* = diameter |
| *h* = height | *A* = area | *S.A.* = surface area | *r* = radius |
| *w* = width | *s* = slant height | *c* = circumference |  |
| \*\*NOTE: Use the π button on your calculator for π\*\* |
| **Area** |
| Triangle |  | $$A=\frac{1}{2}bh$$ |
| Rectangle |  | $$A=lw$$ |
| Trapezoid |  | $$A=\frac{1}{2}h(b\_{1}+b\_{2})$$ |
| Parallelogram |  | $$A=bh$$ |
| Circle |  | $$A=πr^{2}$$ |
| **Volume and Surface Area** |
| Right circular cone |  | $$V=\frac{1}{3}πr^{2}h$$ | $$S.A.=πrs+πr^{2}$$(closed top) |
| Right rectangular pyramid |  | $$V=\frac{1}{3}lwh$$ | $$S.A.=area of triangles+area of base$$ |
| Sphere  |  | $$V=\frac{4}{3}πr^{3}$$ | $$S.A.=4πr^{2}$$ |
| Right circular cylinder |  | $$V=πr^{2}h$$ | $$S.A.=2πrh+2πr^{2}$$(both ends closed) |
| Rectangular solid |  | $$V=lwh$$ | $$S.A.=2\left(lw\right)+2\left(hw\right)+2(lh)$$ |
| **Equivalencies** |
| 1 foot (ft) = 12 inches (in) | 1 cup = 8 fluid ounces (fl oz) |
| 1 yard (yd) = 3 ft = 36 in | 1 pint = 2 cups (c) |
| 1 mile (mi) = 1 760 yd = 5 280 ft | 1 quart = 2 pints  |
| 1 acre = 43 560 square feet (ft2) | 1 gallon = 4 quarts |
| 1 hour (h) = 60 minutes (min) | 1 pound = 16 ounces (oz) |
| 1 min = 60 seconds (s) | 1 ton = 2000 pounds (lb) |
|  |  |
| 1 litre (l) = 1000 millilitres (ml) = 1000 cubic centimeters (cm3) |
| 1 tonne = 10000 kilograms (kg) |
| 1 metre (m) = 100 cm = 1000 millimetres (mm) |
| 1 kilometre (km) = 1000 m |
| 1 gram (g) = 1000 milligrams (mg) |
| 1 kg = 1000 g |
| **Approximate Conversions** |
| **SI (Metric) to Imperial Units** | **Imperial to SI (Metric) Units** |
| $$1 mm≅\frac{4}{100} in$$ | $$1 in≅2.5 cm$$ |
| $1 cm≅\frac{4}{10} in$  | $$1 ft≅30 cm≅0.30 m$$ |
| $$1 m≅39 in≅3\frac{1}{4} ft$$ | $$1 yd≅0.90 m$$ |
| $$1 km≅\frac{6}{10} mi$$ | $$1 mi≅1.6 km$$ |

|  |
| --- |
| **Right-Triangle Trigonometry** |
| SOH CAH TOA | $$sin=\frac{opp}{hyp}$$ | $$cos=\frac{adj}{hyp}$$ | $$tan=\frac{opp}{adj}$$ |
| Pythagorean Formula: $a^{2}+b^{2}=c^{2}$ |

|  |
| --- |
| **Linear Functions** |
| $$slope\left(m\right)=\frac{rise}{run}=\frac{y\_{2}-y\_{1}}{x\_{2}-x\_{1}}$$ | Slope y-intercept form: $y=mx+b$ |
| General form: $ Ax+By+C=0$ | Point-slope form: $\left(y-y\_{1}\right)=m(x-x\_{1})$ |