Pure Math 30
Course Information

Pure Math 30 is an intensive course, with a lot of new material and considerable homework. Students who are not prepared to commit to regular attendance and 100% homework completion should not consider taking this course.

Pure Math 30 makes extensive use of the **TI83+/4** graphing calculator.
This calculator (and only this calculator) is a requirement of this course, and students are expected to have their own. One calculator is available for classroom use when necessary.

Homework will be assigned following each lesson. These assignments can be corrected using the answers provided in the back of the textbook. Help with questions you didn't understand will be provided following the next lesson.

Each unit in the course will be followed by a **Unit Test**. Any Unit test may be rewritten for a better mark. If the rewrite mark is lower, the two marks are averaged. Unit Test marks are weighted similarly to (but not identically to) how the topics are weighted on the Diploma Exam.

Unit assignments will be given out at the beginning of each new unit, and need to be completed by the first review period at the end of the unit.

Review for the final examination will take place after school or in the evenings (students' choice) during the last month of the course. Each session will review one unit. Attendance is strongly advised.

Evaluation (Teacher Mark)

Unit Tests 86% (individually weighted)
- Transformations 13%
- Logs and Exponents 15%
- Sequences and Series 3%
- Conics 10%
- Trigonometry 22%
- Perms and Combs 15%
- Statistics 8%

Review Tests 14%

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Unit Plans

Textbook: *Mathpower 12* Resources: *Mathpower Database*

Unit 1: Transformations (13 classes)

Review pg. 3, Types of functions & graphing pg. 4-6
Horizontal & Vertical Translations pg. 7-13 (2 classes)
Reflections pg. 16-28 (2 classes)
Even & Odd Functions, and Symmetry pg. 29
Stretches pg. 30-40 (2 classes)
Combinations pg. 44-49
Reciprocal & Absolute Value pg. 50-57
Fermi Problems and Applications pg. 58-59, 60-63
Review pg. 64-67 (2 classes)
Test

Unit 2a: Exponents & Logarithms (16 classes)

Review pg. 70-71; Exponential Functions pg. 76-83 (2 classes)
Applications & Problem Solving pg. 84-85
Exponential Equations pg. 86-90
Exponential Regression pg. 91-92
Exponential Inverses and Logarithms pg. 93-100 (2 classes)
Graphs pg. 101
Logarithm Laws pg. 102-107
Equation Solving pg. 108-115 (2 classes)
Growth and Decay Examples pg. 116-123 (2 classes)
Review pg. 126-129 (2 classes)
Test

Unit 2b: Sequences and Series (9 classes)

Review and Introduction pg. 284-291 (2 classes)
Geometric Sequence Review pg. 292-296 (2 classes) … no Arithmetic at all
Geometric Sequences pg. 297-301 (2 classes)
Compound Interest pg. 302-305
Geometric Series pg. 306-311 (2 classes)
Other Series pg. 318-321
Review pg. 324-327 (2 classes)
Test

Unit 3: Conics (8 classes)

Review and Introduction pg. 132-135; Patterns pg. 136-137
Circles pg. 138-142 (2 classes)
Ellipses pg. 143-153 (2 classes)
Hyperbolae pg. 154-163 (2 classes)
Parabolas pg. 164-169 (2 classes)
Locus Definitions
Review (2 classes)
Test

Unit 4a: Trigonometric Functions (13 classes)

Review pg. 184-185; Angular Measure pg. 186-191
Trig Ratios of Any Angle pg. 194-201 (2 classes)
Graphing Sin & Cos pg. 203-211 (2 classes)
More Transformations pg. 212-219 (2 classes)
Applications pg. 222-227 (2 classes)
Other Trig Functions pg. 228-232
Absolute Value and Applications pg. 233-235
Review pg. 236-238 (2 classes)
Test

Unit 4b: Trigonometric Equations (13 classes)

Review pg. 242-243
Graphs and Solutions pg. 244-248 (2 classes)
Solving Equations pg. 249-253 (2 classes)
Technology and More Complicated Examples pg. 254-257
Identities pg. 258-265 (2 classes)
Sum & Difference Identities pg. 266-274 (2 classes)
Review pg. 278-280 (2 classes)
Test

Unit 5: Combinatorics (9 classes)

Fundamental Counting Principle pg. 334-337
Permutations pg. 338-343 (2 classes)
Sets & Subsets pg. 344; Combinations pg. 345-349 (2 classes)
Pathways and Pascal's Triangle pg. 350-353
Binomial Theorem pg. 354-357
Review pg. 360-362 (2 classes)
Test

Unit 6: Probability Distributions (10 classes)

Review pg. 402-403; Binomial Distribution pg. 404-408 (2 classes)
Mean & Standard Deviation pg. 409-413
Standard Normal Curve pg. 414-417
Normal Distributions pg. 418-423 (2 classes)
Normal Distribution Approximation pg. 424-427
Probability & Combinatorics
Review pg. 440-442 (2 classes)
Test

Course Review pg. 446-449 (No classes)