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|  | MAT 1275 CO |  | MAT 1275 |
|  | Arithmetic* Signed numbers
* Absolute values
* Order of Operations
* Fractions
 | 1 | Arithmetic* Signed numbers
* Absolute values
* Order of Operations
* Fraction
 |
| 2 | Linear Expressions * Evaluating
* Adding and subtracting
 |  |  |
| 3 | Integer Exponents | 2 | Integer Exponents |
| 4 | Polynomials* Evaluating
* Operations (+, -, x)
 | 3 | Polynomials* Evaluating
* Operations (+, -, x)
 |
| 5 | Polynomial division* Dividing by monomial
* Long division
 | 4 | Polynomial division* Dividing by monomial
* Long division
 |
| 5 | Factoring I* GCF
* Grouping method
 | 5 | Factoring I and II |
| 6 | Factoring II* Trinomials
* Special products
 |  |  |
| 7 | Rational Expression I (no factoring)* Simplify
* Multiplication and division
* Addition and subtraction
* Complex fractions
 | 6 | Rational Expression I (no factoring)* Simplify
* Multiplication and division
* Addition and subtraction
* Complex fractions
 |
| 8 | Rational Expression II (factoring)* Simplify
* Multiplication and division
* Addition and subtraction
 | 7 | Rational Expression II (factoring)* Simplify
* Multiplication and division
* Addition and subtraction
 |
| 9 | Radical Expression I (numbers)* Simplify
* Operations (+, -, x, /)
* Rational exponents
 | 8 | Radical Expression I (numbers)* Simplify
* Operations (+, -, x, /)
* Rational exponents
 |
| 10 | Radical Expression II (variables)* Evaluate
* Simplify
* Operations (+, -, x, /)
* Rational exponents
 | 9 | Radical Expression II (variables)* Evaluate
* Simplify
* Operations (+, -, x, /)
* Rational exponents
 |
| 11 | Solving Equations and Linear Equations* Concept of solution
* Solve linear equations
 |  |  |
| 12 | Quadratic Equations I* Zero product rule
* Roots and factors
* Square root property
 | 10 | Quadratic Equations I* Zero product rule
* Roots and factors
* Square root property
 |
| 13 | Quadratic Equations II (real roots only)* Completing square
* Quadratic formula
 | 11 | Quadratic Equations II (real roots only)* Completing square
* Quadratic formula
 |
| 14 | Complex Numbers* Definition
* Operations (+, -, x, /)
 | 12 | Complex Numbers* Definition
* Operations (+, -, x, /)
 |
| 15 | Quadratic Equations III (all roots)* Quadratic formula
 | 13 | Quadratic Equations III (all roots)* Quadratic formula
 |
| 16 | Polynomial Equations * Roots and factors
 | 14 | Polynomial Equations * Roots and factors
 |
| 17 | Rational Equations | 15 | Rational Equations |
| 18 | Radical Equations | 16 | Radical Equations |
| 19 | Two variable equations and graphs* Concepts
* Introduction to graph
 |  |  |
| 20 | Graph of Lines* Slope
* Vertical/horizontal lines
 | 17 | Graph of Lines* Slope
* Vertical/horizontal lines
 |
| 21 | Graph of Parabolas* Vertices
* Symmetry
* Shifting of graph
 | 18 | Graph of Parabolas* Vertices
* Symmetry
* Shifting of graph
 |
| 22 | Graph of Circles* Distance formula
* Midpoint formula
* Completing the square
* Shifting of graph
 | 19 | Graph of Circles* Distance formula
* Midpoint formula
* Completing the square
* Shifting of graph
 |
| 23 | System of Linear Equations I* Graphing method
 |  |  |
| 24 | System of Linear Equations II* Substitution method
* Elimination method
 | 20 | System of Linear Equations I and II* Graphing method
* Substitution method
* Elimination method
 |
| 25 | System of Non-linear equations* Graphing method
* Algebraic method
 | 21 | System of Non-linear equations* Graphing method
* Algebraic method
 |
| 26 | Introduction to Trig functions I* Definition in right triangle
* Evaluation (acute angles only)
* Pythagorean Theorem
 | 22 | Introduction to Trig functions I* Definition in right triangle
* Evaluation (acute angles only)
* Pythagorean Theorem
 |
| 27 | Introduction to Trig functions II* Radian unit
* Unit Circle
* Evaluation (any angles)
 | 23 | Introduction to Trig functions II* Radian unit
* Unit Circle
* Evaluation (any angles)
 |
| 28 | Exponential and Log Expressions* Evaluation
 | 24 | Exponential and Log Expressions* Evaluation
 |
| 29-37 | **8 extra classes** | 25 | **1 extra class** |
| 38-41 | 4 reviews | 26 | One final review |
| 42-45 | 4 Exams | 27-30 | 4 exams |

**Removed from 1275CO/1275**

* System of linear equations with 3 variables
* Graph of Exp functions and graph of log functions (move to 1375)
* Graph of Sine and Cosine functions (move to 1375)
* Inverse Trig functions (move to 1375)
* Trig identities (move to 1375)
* Solving trig equations (move to 1375)
* Law of Sine and Law of Cosine (will be added to the homework of evaluation of sine and cosine in both 1275 and 1375)

**Added to 1275**

* Basic arithmetic
* Review for factoring
* Operation with polynomials
* Long division
* Polynomial equations
* Graph of linear equations
* System of 2 by 2 linear equations

**Added to 1275CO**

* Long division
* Polynomial equations

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|  | MAT 1375 |
| 1  | Basic Notation, Intervals, Introduction to Functions |
| 2 | Functions by Formulas, standard domain (MOVED Lines 🡪 1275) |
| 3 | Functions by Graphs, Introduction to Desmos |
| 4 | Basic Functions and Transformation  |
| 5 | Operation on Functions, Composition, One-to-one functions |
| 6 | The Inverse of a Function |
| 7 | Polynomial functions (I) |
| 8 | Polynomial graphs (II) |
| 9 | Polynomials theory (III) |
| 10 | Graph of Rational functions I |
| 11 | ADDED: Graph of Rational functions II (asymptotes limit behavior) |
| 12 | Polynomial and Rational Inequalities, The Absolute Value Equations and Inequalities (DEEMPHASIZED absolute value equations) |
| 13 | Exponential and Logarithmic Functions |
| 14 | Properties of Log and Log equations |
| 15 | Exponential equations and applications |
| 16 | Applications of exponential functions |
| 17 | Review of Unit Circle Trigonometric (Ex: Addition of Angles and Multiple Angle Formula) |
| 18 | Graph of Trigonometric Functions |
| 19 | Inverse Trigonometric Functions |
| 20 | Solving Trigonometric Equations |
| 21 | ADDED: Trigonometric Identities  |
| 22 | Vectors in the Plane |
| 23 | Complex Numbers (Polar Form) |
| 24 | Sequences and Series |
| 25 | The Geometric Series |
|  | (MOVED Binomial theorem 🡪 1275) |
| 26 | One final review |
| 27-30 | 4 exams |