

Mathematics 9

Long Range and Unit Plans

Text: “Interactions 9”

This is the last year for the old Math 9 curriculum. Emphasis is placed on skills students will need to be successful in Math 10 Pure. Concepts will be presented to students using a variety of teaching methods, including the use of manipulatives and visual aids. Students will demonstrate their learning orally, with written explanations, using pictures and diagrams, and with traditional procedural mathematics.

All learner outcomes in the strands as identified by the Western Canadian Protocol common curriculum are covered by the textbook.

Units:

Data Analysis	to Sept. 16
Powers & Roots	Sept. 17 - Oct. 3
Transformations	Oct. 4 - Oct. 24
Rational Numbers	Oct. 28 - Nov. 14
Polynomials (1)	Nov. 15 - Dec. 9
Earning & Spending	Dec. 10 - Dec. 20
Polynomials (2)	Jan. 6 - Jan. 23
Probability	Jan. 24 - Feb. 10
Measurement & Geometry	Feb. 11 - Mar. 5
Equations	Mar. 11 - Apr. 9
Similarity & Trigonometry	Apr. 10 - May 6
Investigations	May 7 - May 23
Exam Review	May 26 - June 20

Evaluation:

Term work: 80%

Term: Tests 60%

Quizzes, ass'ts, hmwk ...20%

Final Exam 20%

Math 9

Unit Plans

Text: *“Interactions 9”* Curriculum: *“Western Canadian Protocol”*

Unit 1 Data Analysis.....14 days

Asking good questions

- experiments, types of variables

Collecting data

Organizing data

- tables, charts, databases

Scatterplots (3 days)

- definitions, reading
 - conclusions

- line of best fit

- constructing

Displaying data creatively

Making and justifying conclusions

Analyzing media data and problems

Review and practice (2 days)

Test

Unit 2 Powers and Roots.....13 days

Powers

- definitions, multiplying rule
- dividing rule
- practice
- powers of powers rule
- calculations with different bases

Scientific Notation (2 days)

Scientific calculator use

Exponents and square roots

Estimating

Graphing and applications

Problem solving with tables

Review (2 days)

Test

Unit 3 Transformations.....13 days

Reflections and their properties (2 days)
Translations and their properties (2 days)
Rotations and their properties (2 days)
Mixed practice
Dilatations and their properties (2 days)
Misleading graphs
Problem solving
Review (2 days)
Test

Unit 4 Rational Numbers.....13 days

Introduction
- real examples
- Identifying types of numbers (N, W, I, Q)
Identifying Rational and Irrational numbers
Square roots and problem solving
Estimating
Scientific calculator use
Practice
Problem solving
Mixed practice
- calculators, problems
- interpreting data
Problem solving involving patterns
Review (2 days)
Test

Unit 5 Polynomials (1).....15 days

Definitions
Evaluating polynomials
Spreadsheets formulas
Combining Terms using algebra tiles
Sums and differences
Adding and subtracting
Practice and problems
Multiplying using algebra tiles

Multiplying
Dividing using algebra tiles
Dividing
Mixed practice and problem solving
Review (2 days)
Test

Unit 6 Earning and Spending.....8 days

Rates of pay and income
Rate of return and problems
Problem-solving investigations:
- Labour rates
- Expenditures
- Ownership
- Inflation
Formulas and Data
Assignment

Unit 7 Polynomials (2).....14 days

Monomial & polynomial multiplication, with algebra tiles
Practice
Identifying common factors
- numerical
- monomial
Binomial & polynomial multiplication, with algebra tiles
Practice (2 days)
Factoring trinomials
Practice
Determining equivalent forms
Problems
Review (3 days)
Test

Unit 8 Probability.....11 days

Experimenting and calculating (2 days)
Solving using geometry
Problems
Analyzing decisions
Interpreting real-life probabilities and statistics
Problems
Experiments
Review (2 days)
Test

Unit 9 Measurement and Geometry.....18 days

Review: formulas and problems practice
Volumes of pyramids and prisms (2 days)
Volumes of cones and cylinders (2 days)
Rate of volume to surface area (2 days)
Rate of area to perimeter
Problems
Plans, sketches, and models, using cubes (3 days)
Locus
Problems
Problem solving using models
Review (3 days)
Test

Unit 10 Equations.....20 days

Equations to describe situations (2 days)
- using, developing
- creating
Equivalent expressions
Data equations
Solving first degree equations
More solving, using algebra tiles
Practice
Simplifying and solving
Practice

Problems (2 days)
Strategies
Quiz
Inequalities
Displaying solutions
Practice
Problem solving techniques
Review (3 days)
Test

Unit 11 Similarity & Trigonometry.....21 days

Congruent triangles (2 days)
-recognizing, properties
-using properties
Practice
Similar triangles (4 days)
- recognizing, properties
- using properties
Practice
Tangents
Calculating unknown sides
Sin and cos
Calculating unknown sides (2 days)
Problems
Finding angles; solving triangles (2 days)
Strategies
Data graphs
Practice (3 days)
Test

Exam Review Assignment

Unit 12 Investigations.....10 days

P, A, V, SA relationships (3 days)

Rates, formulas, trig. ratios (2 days)

Percents, proportions, and scatterplots (2 days)

Powers and Integers (2 days)

Formulas and relationships (2 days)

Exam Review.....10 days