

Table of Contents

Overview of Foundations of

Mathematics 10	ix
Structure of the Teacher's Resource	xi
Program Philosophy	xiv
Approaches to Teaching Mathematics	xv
Instructional Practice	xvi
Literacy	xvii
Cooperative Learning	xix
Mental Mathematics	xxiii
Problem Solving	xxvii
Mathematical Processes	xxviii
Technology	xxx
Assessment	xxxix
Intervention	xxxiv
Curriculum Correlation	xxxviii

Chapter 1 Measurement Systems and Similar Triangles 1

Chapter 1 Planning Chart	3
Chapter 1 Blackline Masters Checklist	4
Get Ready!	6
1.1 Imperial Measure	7
1.2 Conversions Between Metric and Imperial Systems	11
1.3 Similar Triangles	15
1.4 Solve Problems Using Similar Triangles	19
Chapter 1 Review	23
Chapter 1 Practice Test	24
Chapter 1 Problem Wrap-Up	25

Chapter 2 Right Triangle Trigonometry 27

Chapter 2 Planning Chart	28
Chapter 2 Blackline Masters Checklist	29
Get Ready!	31
2.1 The Pythagorean Theorem	32
2.2 Explore Ratio and Proportion in Right Triangles	35
2.3 The Sine and Cosine Ratios	38
2.4 The Tangent Ratio	42
2.5 Solve Problems Using Right Triangles	45
Chapter 2 Review	48
Chapter 2 Practice Test	49
Chapter 2 Problem Wrap-Up	50
Task Fix Up a Neighbourhood Park	51
Chapters 1–2 Review	54

Chapter 3 Linear Relations 55

Chapter 3 Planning Chart	56
Chapter 3 Blackline Masters Checklist	57
Get Ready!	59
3.1 Slope as a Rate of Change	60
3.2 Investigate Slope and y-Intercept Using Technology	64
3.3 Properties of Slopes of Lines	67
3.4 Determine the Equation of a Line	70
3.5 Graph Linear Relations by Hand	74
Chapter 3 Review	78
Chapter 3 Practice Test	79
Chapter 3 Problem Wrap-Up	80

Chapter 4 Linear Equations 83

Chapter 4 Planning Chart	85
Chapter 4 Blackline Masters Checklist	86
Get Ready!	87
4.1 Solve One- and Two-Step Linear Equations	88
4.2 Solve Multi-Step Linear Equations	92
4.3 Model With Formulas	96
4.4 Convert Linear Equations From Standard Form	100
Chapter 4 Review	103
Chapter 4 Practice Test	104
Chapter 4 Problem Wrap-Up	105

Chapter 5 Linear Systems 107

Chapter 5 Planning Chart	109
Chapter 5 Blackline Masters Checklist	110
Get Ready!	112
5.1 Solve Linear Systems by Graphing	113
5.2 Solve Linear Systems by Substitution	116
5.3 Solve Linear Systems by Elimination	120
5.4 Solve Problems Involving Linear Systems	124
Chapter 5 Review	128
Chapter 5 Practice Test	129
Chapter 5 Problem Wrap-Up	130
Task Charity Fundraising	132
Chapters 3–5 Review	135

Chapter 6 Quadratic Relations 137

Chapter 6 Planning Chart	138
Chapter 6 Blackline Masters Checklist	139
Get Ready!	140

6.1 Explore Non-Linear Relations	141
6.2 Model Quadratic Relations	145
6.3 Key Features of Quadratic Relations	149
6.4 Rates of Change in Quadratic Relations	153
Chapter 6 Review	157
Chapter 6 Practice Test	158
Chapter 6 Problem Wrap-Up	159

Chapter 7 Quadratic Expressions	161
Chapter 7 Planning Chart	163
Chapter 7 Blackline Masters Checklist	164
Get Ready!	165
7.1 Multiply Two Binomials	166
7.2 Common Factoring	170
7.3 Factor a Difference of Squares	173
7.4 Factor Trinomials of the Form $x^2 + bx + c$	177
Chapter 7 Review	181
Chapter 7 Practice Test	182
Chapter 7 Problem Wrap-Up	183

Chapter 8 Represent Quadratic Relations.	185
Chapter 8 Planning Chart	186
Chapter 8 Blackline Masters Checklist	187
Get Ready!	188
8.1 Interpret Quadratic Relations	189
8.2 Represent Quadratic Relations in Different Ways.	193
8.3 The Quadratic Relation $y = ax^2 + c$	197
8.4 Solve Problems Involving Quadratic Relations	201
Chapter 8 Review	205
Chapter 8 Practice Test	206
Chapter 8 Problem Wrap-Up	207
Task Home Run Derby	209
Chapters 6 to 8 Review	211

Chapter 9 Volume and Surface Area.	213
Chapter 9 Planning Chart	215
Chapter 9 Blackline Masters Checklist	217
Get Ready!	219
9.1 Volume of Prisms and Pyramids.	221
9.2 Surface Area of Prisms and Pyramids	224
9.3 Surface Area and Volume of Cylinders	227
9.4 Volume of Cones and Spheres	231
9.5 Solve Problems Involving Surface Area and Volume.	234
Chapter 9 Review	238

Chapter 9 Practice Test	239
Chapter 9 Problem Wrap-Up	240
Task Design a Game	242
Chapters 1 to 9 Review	244

Blackline Masters

(Available on *Foundations of Mathematics 10: Teacher's Resource CD-ROM*)

This package has generic masters, and generic assessment masters, along with chapter-specific worksheets, assessment tools, and technology masters.

Blackline Masters are provided in WORD and PDF format for each skill reviewed on the Get Ready pages, and for each numbered section of the text. A Chapter Practice Test and a Chapter Test are provided for each chapter. Answers are given for all these extra questions.

The BLM package also includes rubrics for the chapter problem wrap-ups, achievement check questions, and chapter tasks.

Generic Assessment Masters

BLM A1	Knowledge/Understanding General Scoring Rubric
BLM A2	Thinking General Scoring Rubric
BLM A3	Communication General Scoring Rubric
BLM A4	Application General Scoring Rubric
BLM A5	Observation General Scoring Rubric
BLM A6	Group Work General Scoring Rubric
BLM A7	Portfolio Checklist
BLM A8	News Report Checklist
BLM A9	Self-Assessment Recording Sheet
BLM A10	Group Work Recording Sheet
BLM A11	Presentation Checklist
BLM A12	Recording Sheet
BLM A13	Attitudes Checklist
BLM A14	Problem Solving Checklist
BLM A15	How I Work
BLM A16	Self-Assessment Checklist
BLM A17	My Progress as a Mathematician
BLM A18	Teamwork Self Assessment
BLM A19	My Progress as a Problem Solver
BLM A20	Assessing Work in Progress
BLM A21	Learning Skills Checklist
BLM A22	Opinion Piece Checklist
BLM A23	Earning Money Report Checklist

Generic Masters

BLM G1	Grid Paper
BLM G2	Protractor
BLM G3	Centimetre Grid Paper
BLM G4	Four-Quadrant Grid
BLM G5	Integer Number Lines
BLM G6	Vertical Number Line
BLM G7	Horizontal Number Lines
BLM G8	Basic Fact Practice
BLM G9	Decimal Point Practice

Generic Tech Masters

BLM T1	<i>The Geometer's Sketchpad</i> ® 4
BLM T2	The Computer Algebra System (CAS) on the TI-89 Calculator
BLM T3	Corel® Quattro Pro® 12
BLM T4	Microsoft® Excel
BLM T5	Cabri Jr.

BLMs for Foundations of Mathematics 10: Chapters 1 to 9

BLM SH	Scavenger Hunt
BLM GS	Getting Started!

Chapter 1

BLM 1.CO.1	Literacy Link: Word Wall
BLM 1.GR.2	Get Ready Self-Assessment Checklist
BLM 1.1.2	Investigate: The Relationships Among Imperial Units
BLM 1.2.2	Metric – Imperial Conversions
BLM 1.2.3	Achievement Check Rubric
BLM 1.3.2	Achievement Check Rubric
BLM 1.4.2	Investigate: Find the Height of Your School's Flagpole
BLM 1.CP.1	Chapter 1 Problem Wrap-Up Rubric BLM Answers

Chapter 1 Practice Masters

BLM 1.GR.1	Practice: Get Ready
BLM 1.1.1	Practice: Imperial Measure
BLM 1.2.1	Practice: Conversions between Metric and Imperial Systems
BLM 1.3.1	Practice: Similar Triangles
BLM 1.4.1	Practice: Solve Problems Using Similar Triangles
BLM 1.CR.1	Chapter 1 Review
BLM 1.PT.1	Chapter 1 Practice Test
BLM 1.CT.1	Chapter 1 Test BLM Answers

Chapter 2

BLM 2.CO.1	Literacy Link: KWL Chart
BLM 2.GR.2	Get Ready Self-Assessment Checklist
BLM 2.2.2	Investigate Method 3: Use Cabri Jr.
BLM 2.3.2	Achievement Check Rubric
BLM 2.4.2	Achievement Check Rubric
BLM 2.CP.1	Chapter 2 Problem Wrap-Up Rubric
BLM 2.T.1	Task: Fix Up a Neighbourhood Park Rubric BLM Answers

Chapter 2 Practice Masters

BLM 2.GR.1	Practice: Get Ready
BLM 2.1.1	Practice: The Pythagorean Theorem
BLM 2.2.1	Practice: Explore Ratio and Proportion in Right Triangles
BLM 2.3.1	Practice: The Sine and Cosine Ratios
BLM 2.4.1	Practice: The Tangent Ratio
BLM 2.5.1	Practice: Solve Problems Using Right Triangles
BLM 2.CR.1	Chapter 2 Review
BLM 2.PT.1	Chapter 2 Practice Test
BLM 2.CT.1	Chapter 2 Test BLM Answers

Chapter 3

BLM 3.CO.1	Literacy Link: Verbal/Visual T-Chart
BLM 3.GR.2	Get Ready Self-Assessment Checklist
BLM 3.1.2	Achievement Check Rubric
BLM 3.5.2	Achievement Check Rubric
BLM 3.CP.1	Chapter 3 Problem Wrap-Up Rubric BLM Answers

Chapter 3 Practice Masters

BLM 3.GR.1	Practice: Get Ready
BLM 3.1.1	Practice: Slope as a Rate of Change
BLM 3.2.1	Practice: Investigate the Slope and y-Intercept Using Technology
BLM 3.3.1	Practice: Properties of Slopes of Lines
BLM 3.4.1	Practice: Determine the Equation of a Line
BLM 3.5.1	Practice: Graph Linear Relations by Hand
BLM 3.CR.1	Chapter 3 Review
BLM 3.PT.1	Chapter 3 Practice Test
BLM 3.CT.1	Chapter 3 Test BLM Answers

Chapter 4

- BLM 4.CO.1 Literacy Link: Concept Circle
- BLM 4.GR.2 Get Ready Self-Assessment Checklist
- BLM 4.1.2 Achievement Check Rubric
- BLM 4.3.2 Achievement Check Rubric
- BLM 4.CP.1 Chapter 4 Problem Wrap-Up Rubric
BLM Answers

Chapter 4 Practice Masters

- BLM 4.GR.1 Practice: Get Ready
- BLM 4.1.1 Practice: Solve One- and Two-Step Linear Equations
- BLM 4.2.1 Practice: Solve Multi-Step Linear Equations
- BLM 4.3.1 Practice: Model with Formulas
- BLM 4.4.1 Practice: Convert Linear Equations from Standard Form
- BLM 4.CR.1 Chapter 4 Review
- BLM 4.PT.1 Chapter 4 Practice Test
- BLM 4.CT.1 Chapter 4 Test
BLM Answers

Chapter 5

- BLM 5.CO.1 Literacy Link: Venn Diagram
- BLM 5.CO.3 Career Profile Report Assessment Rubric
- BLM 5.GR.2 Get Ready Self-Assessment Checklist
- BLM 5.1.2 Achievement Check Rubric
- BLM 5.4.2 Achievement Check Rubric
- BLM 5.CP.1 Chapter 5 Problem Wrap-Up Rubric
- BLM 5.T.1 Task: Charity Fundraising Rubric
BLM Answers

Chapter 5 Practice Masters

- BLM 5.GR.1 Practice: Get Ready
- BLM 5.1.1 Practice: Solve Linear Systems by Graphing
- BLM 5.2.1 Practice: Solve Linear Systems by Substitution
- BLM 5.3.1 Practice: Solve Linear Systems by Elimination
- BLM 5.4.1 Practice: Solve Problems Involving Linear Systems
- BLM 5.CR.1 Chapter 5 Review
- BLM 5.PT.1 Chapter 5 Practice Test
- BLM 5.CT.1 Chapter 5 Test
BLM Answers

Chapter 6

- BLM 6.CO.1 Literacy Link: Circle, Wheel, and Spoke Diagrams
- BLM 6.GR.2 Get Ready Self-Assessment Checklist
- BLM 6.2.3 Achievement Check Rubric
- BLM 6.3.3 Achievement Check Rubric
- BLM 6.4.2 Achievement Check Rubric
- BLM 6.CP.1 Chapter 6 Problem Wrap-Up Rubric
BLM Answers

Chapter 6 Practice Masters

- BLM 6.GR.1 Practice: Get Ready
- BLM 6.1.1 Practice: Explore Non-Linear Relations
- BLM 6.2.1 Practice: Model Quadratic Relations
- BLM 6.3.1 Practice: Key Features of Quadratic Relations
- BLM 6.4.1 Practice: Rates of Change in Quadratic Relations
- BLM 6.CR.1 Chapter 6 Review
- BLM 6.PT.1 Chapter 6 Practice Test
- BLM 6.CT.1 Chapter 6 Test
BLM Answers

Chapter 7

- BLM 7.CO.1 Literacy Link: Concept Web
- BLM 7.GR.2 Get Ready Self-Assessment Checklist
- BLM 7.2.2 Achievement Check Rubric
- BLM 7.4.2 Achievement Check Rubric
- BLM 7.CP.1 Chapter 7 Problem Wrap-Up Rubric
BLM Answers

Chapter 7 Practice Masters

- BLM 7.GR.1 Practice: Get Ready
- BLM 7.1.1 Practice: Multiply Two Binomials
- BLM 7.2.1 Practice: Common Factoring
- BLM 7.3.1 Practice: Factor a Difference of Squares
- BLM 7.4.1 Practice: Factor Trinomials of the Form $x^2 + bx + c$
- BLM 7.CR.1 Chapter 7 Review
- BLM 7.PT.1 Chapter 7 Practice Test
- BLM 7.CT.1 Chapter 7 Test
BLM Answers

Chapter 8

- BLM 8.CO.1 Literacy Link: Mind Map
- BLM 8.GR.2 Get Ready Self-Assessment Checklist
- BLM 8.1.2 Achievement Check Rubric
- BLM 8.4.2 Achievement Check Rubric
- BLM 8.CP.1 Chapter Problem Wrap-Up Rubric
- BLM 8.T.1 Task: Home Run Derby Rubric
- BLM Answers

Chapter 8 Practice Masters

- BLM 8.GR.1 Practice: Get Ready
- BLM 8.1.1 Practice: Interpret Quadratic Relations
- BLM 8.2.1 Practice: Represent Quadratic Relations in Different Ways
- BLM 8.3.1 Practice: The Quadratic Relation $y = ax^2 + c$
- BLM 8.4.1 Practice: Solve Problems Involving Quadratic Relations
- BLM 8.CR.1 Chapter 8 Review
- BLM 8.PT.1 Chapter 8 Practice Test
- BLM 8.CT.1 Chapter 8 Test
- BLM Answers

Chapter 9

- BLM 9.CO.1 Literacy Link: Discussion Chart
- BLM 9.GR.2 Get Ready Self-Assessment Checklist
- BLM 9.GR.3 Nets
- BLM 9.1.2 Investigate: Compare the Volume of a Prism and a Pyramid
- BLM 9.1.3 Achievement Check Rubric
- BLM 9.2.2 Formula Sheet
- BLM 9.4.2 Investigate: Compare the Volume of a Cylinder and a Cone
- BLM 9.5.3 Achievement Check Rubric
- BLM 9.CP.1 Chapter Problem Wrap-Up Rubric
- BLM 9.T.1 Task: Design a Game
- BLM Answers

Chapter 9 Practice Masters

- BLM 9.GR.1 Practice: Get Ready
- BLM 9.1.1 Practice: Volume of Prisms and Pyramids
- BLM 9.2.1 Practice: Surface Area of Prisms and Pyramids
- BLM 9.3.1 Practice: Surface Area and Volume of Cylinders
- BLM 9.4.1 Practice: Volume of Cones and Spheres
- BLM 9.5.1 Practice: Solve Problems Involving Surface Area and Volume
- BLM 9.CR.1 Chapter 9 Review
- BLM 9.PT.1 Chapter 9 Practice Test
- BLM 9.CT.1 Chapter 9 Test
- BLM Answers

