

Math 9 - Outline of Assignments

N.B. (“nota bona”, Latin for “note well”)

The chart that follows outlines the **minimum** assignments that you should do to get to the level of mathematical understanding that the Ministry of Education says you should have by the end of grade 9. These are the assignments that I will count for your letter grades. There is much, much more in the text than these minimums, however. I strongly urge you, if you have the time in class or at home to read and try as much as you can of the other stuff, usually entitled “Getting Started”, “Learning Together”, “Technology”, “Connecting...”, etc.

Do not start the questions until you have understood the ideas from having listened in class and read the text, including the examples. Your job is to understand the math ideas involved there. You should do the problems to see how well you understood the ideas. Ask for the teacher’s help or a desk partner’s help when an example is unclear, not just when you are stuck on a question. It is a good idea to do your vocabulary memory cards first thing in any section, so that you are better prepared for the problems.

Assignments are due the period following the lesson date. In many cases you will need to ask questions the following period about the previous period’s assignment. Therefore a late penalty will be assessed only for assignments that come in after the chapter test. However, if you leave completion of assignments longer than a couple of days, you will just keep falling further and further behind and get discouraged and fail and lose the chance to make big bucks as an adult mathematician.

Use the “√” column to keep track of completed work. Enter your assignment mark and test scores in the last column as you get your work back so you will have a record of marks from which you can calculate your grade at any time.

Always read the text section noted in the “Section, Topic, and Title” column before starting the questions.

Checklist for getting full marks on assignments:

first and last name in top right hand corner of top page?	full description (assignment, page, and question numbers) at top?
done readably on non-ripped loose-leaf paper?	question numbers in margins? two columns maximum?
all pages in order? stapled together neatly?	multi-step questions in style of examples in text or your notes?
multi-step work shown in same area of page as answer?	no significant erasures?
all questions marked with a tick, cross, or question mark?	all questions finally corrected and completed?

Abbreviations you could get on an assignment:

N.C.Y.	no credit yet - find out what I’m giving you a chance to fix, fix it, and hand it in again for credit
S.A.W.	show all work - for questions that have more than one step I expect you to show how you got your answer. If you used a calculator, fine, but show me what you did on the calculator by labeling the numbers you write down.
M.C.R.	mark, correct, and resubmit
N.F.	not finished - I may just give you a low mark or I may hand it back and give you a chance to finish it
S.N.	section number - you didn’t note what chapter and section it is at the top of the page
Q.N.	question numbers – you didn’t write the page and question numbers down at the top of the page

√	Section, Title, & Topics	Assignment	Date	Score
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Chapter 1 - Numbers

Chapter 1 Intro - Prime Numbers, Squares, Cubes, Factors, The Rational Numbers, Perfect Square, Triangular Numbers Vocabulary - primes, twin primes, factor, product, cube, square, natural number, whole number, integer, rational number, terminating decimal,	Do p. 1-3, Activity 1 (omit 4b), 2, 3 p. 4&5 Activity 1, 2, 3, 4 p. 6 Activity 1, 2		
1.1 Estimating and Calculating Square Roots Vocabulary - square root, radical sign, principal square root, irrational number, real number, \pm	Read p. 8-10 Do p. 10 #1-53 (odds), 55 (odds), 56a, 57a, 59, 60, 63		
1.2 Applying Square Roots	Read p. 12 Do p. 13 #1-17 (odds), 21, Pattern Power		
1.4 Exponents and Powers Vocabulary - standard form, exponential form, factorial form, base, exponent, power, coefficient	Read p. 16 & 17 Do p. 17 #1 - 67 (odds), 69, 70, 77		
1.5 The Exponent Rules Vocabulary - order of magnitude	Read p. 20 & 21 Do p. 21 # 1 - 49 (odds) 51, 52		
1.7 Scientific Notation Vocabulary - scientific notation	Read p. 24 Do p. 25 # 1 - 21 (odds), 23, 25, Calculator Power		
1.8 Working with Exponents	Read p. 26 & 27 Do p. 28 # 1 - 75 (odds), 77 (odds), 79 (odds), 81 - 85, Pattern Power		
1.9 Powers of Monomials Vocabulary - monomial, variable	Read p. 32 & 33 Do p. 34 # 1 - 59 (odds), 60, 63		
1.11 Zero and Negative Exponents	Read p. 36 - 38 Do p. 38 # 1 - 67 (odds), 68, 78, 79		
1.12 Scientific Notation: Small Numbers	Read p. 42 Do p. 42 # 1 - 27 (odds), 29, 31, 32, Calculator Power		
Review	Do p. 52 # 1 - 83 (odds), 84 - 88 (evens)		
Test on Chapter 1 (half a period)			

Chapter 2 - Patterns and Equations

2.1 PROBLEM SOLVING: Look for a Pattern	Read p. 60 Do p. 61 #1 - 15 (odds), 6		
2.2 Evaluating Expressions Vocabulary - evaluate, variable, algebraic expression, term, constant, substitution	Read p. 62 & 63 Do p. 63 #1 - 21 (odds)		
2.3 Like Terms Vocabulary - like term, unlike term	Read p. 64 Do p. 65 #1 - 33 (odds), 37, 39		
2.4 Writing Equations	Read p. 68 Do p. 69 #1 - 25 (all), Word Power		
2.6 Using Addition to Solve Equation Vocabulary - equivalent forms of equations, isolating the variable	Read p. 74 & 75 examples 1 and 2 (ignore Algebra Tiles) Do p. 76 #1 - 41 (odds), 43 - 49		
2.7 Using Division and Multiplications to Solve Equations	Read p. 77 & 78 examples 1 to 4 (ignore Algebra Tiles) Do p. 79 #1 - 39 (odds), 41 - 47		

√ Section, Title, & Topics	Assignment	Date	Score
2.10 Solving Equations Using More Than One Step	Read p. 89 examples 1 to 5 (ignore Algebra Tiles) Do p. 90 #3 - 51 (odds), 53, 55		
2.11 Solving Equations with Variables on Both Sides	Read p. 92 example (ignore Algebra Tiles) Do p. 93 #1 - 41 (odds), 43, 45 (a, c, e), 48		
2.12 The Distributive Property Vocabulary - distributive property	Read p. 94 examples 1 and 2 (ignore Algebra Tiles) Do p. 95 #1 - 57 (odds), 61, 63a		
2.13 Solving Equations with Brackets	Read p. 96 & 97 Do p. 98 #3 - 30 (multiples of 3), 33, 35		
2.14 Solving Equations with Fractions and Decimals	Read p. 101 and 102 Do p. 102 #1 - 31 (odds), 33 - 40 (all)		
Review	Do p. 106 #1 - 7 (odds), 11 - 19 (all), 20 - 84 (multiples of 3)		
Test on Chapter 2 (half a period)			
1.3 PROBLEM SOLVING: Guess and Check 1.6 PROBLEM SOLVING: Make Assumptions 1.10 PROBLEM SOLVING: Use a Flow Chart 1.14 PROBLEM SOLVING: Use a Data Bank	Read p. 14 and Do p. 15 #1 - 7 (all) Read p. 22 and Do p. 23 #1 - 5 (all) Read p. 35 and Do p. 35 #1 Read p. 48 and Do p. 49 #1, 8		
2.8 PROBLEM SOLVING: Use Logic 2.9 PROBLEM SOLVING: Work Backwards	Read p. 80 and Do p. 81 #1 - 4, 9, 10 Read p. 84 and Do p. 85 #2, 4, 8		
Chapter 3 - Using Equations to Solve Problems			
3.1 Solving Problems Using Equations	Read p. 114 - 116 Do p. 116 #1 - 8 (all), 9, 11, 13, 15 - 35 (odds)		
<i>More time for 3.1</i>			
3.2 PROBLEM SOLVING: Use a Formula 3.3 Working with Formulas	Read p. 118 Do p. 119 #1, 3, 4, 6 Read p. 120 Do p. 121 #1 - 10 (all), 11		
3.4 Developing Formulas	Read p. 124 Do p. 125 #1 - 6 (all), 7, 9		
3.5 Uniform Motion Problems Vocabulary - uniform motion	Read p. 126 Do p. 127 #1 - 11 (odds), 13 - 23 (odds), 24, 27		
3.6 Rate of Work Problems	Read p. 128 Do p. 129 #1, 2, 3, 5, 7, 9		
3.7 PROBLEM SOLVING: Interpret Graphs	Read p. 130 Do p. 131 #1 - 6 (all)		
3.8 Solving Inequalities Vocabulary - $>$, $<$, \geq , \leq , inequality	Read p. 132 - 135 Do p. 134 #1 (odds), 2 (odds), 3 - 36 (odds), 45 - 75 (multiples of three), 78, 81, 84		
Review	Do p. 140 #1 - 11 (odds), #13 - 33 (odds), 35, 37, 39, 43		
Test on Chapter 3 (half a period)			
Chapter 4 - Polynomials			

√	Section, Title, & Topics	Assignment	Date	Score
	4.1 Polynomials	Read p. 147 & 148 Do p. 149 #1 - 32 (all), 34		
	4.2 Adding Polynomials Vocabulary - polynomial, binomial, trinomial, degree of a monomial, descending order	Read p. 151 examples 1 & 2 (Ignore Algebra Tiles) Do p. 152 #9 - 27 (odds), 30		
	4.3 Subtracting Polynomials Vocabulary - additive inverse	Read p. 154 examples 1 & 2 (Ignore Algebra Tiles) Do p. 155 # 1 - 17 (odds), 18, 19, 20, 26, 30		
	4.5 Multiplying Monomials by Monomials	Read p. 160 example (Ignore Algebra Tiles) Do p. 161 #1 - 41 (odds), 43 (odds), 45		
	4.7 Dividing Monomials by Monomials	Read p. 164 Do p. 165 #1 - 43 (odds), 45, 47		
	Review	Do p. 170 # 1 - 15 (odds), 19 - 37 (odds), 39 - 45 (odds), 48 - 51		
	Test on Chapter 4 (half a period)			

Chapter 5 - Special Products and Factoring

Note: Get a ruler, compass, and protractor ready for chapter 6 and have them available in your pencil case.

	5.1 Common Factors and the GCF Vocabulary - GCF	Read p. 182 & 183 Do p. 184 #1 - 41 (odds), 45a		
	5.2 Factoring Expressions with Common Factors	Read p. 185 Do p. 186 #1 - 31 (odds), 32, 34		
	5.3 Multiplying a Polynomial by a Monomial	Read p. 188 Do p. 189 #1 - 45 (odds), 47 ac		
	5.4 Dividing Polynomials by Monomials	Read p. 190 Examples 1 & 2 (Ignore Algebra Tiles) Do p. 191 #1 - 23 (odds), 25ac, Logic Power		
	5.5 Binomial Products	Read p. 193 Example (Ignore Algebra Tiles) Do p. 194 #1 - 5 (odds), 56		
	5.7 Special Products: $(a - b)(a + b)$ 5.9 Special Products: Perfect Squares	Read p. 198 Do p. 199 #1 - 23 (odds), 25, 33, 35 Read p. 202 Example (Ignore Algebra Tiles) Do p. 203 #1 - 41 (odds), 43 - 48 (odds), 46		
	5.6 Factoring Trinomials: $x^2 + bx + c$	Read p. 195 & 196 (Ignore Algebra Tiles) Do p. 197 #3 - 43 (odds), 46		
	More time on 5.6			
	5.8 Factoring the Difference of Squares	Read p. 200 Do p. 201 #1 - 57 (odds)		
	5.10 Products of Polynomials	Read p. 204 Do p. 205 #3 - 39 (multiples of three), 41		

√	Section, Title, & Topics	Assignment	Date	Score
	5.11 Rational Expressions	Read p. 206 & 207 Do p. 208 #1 - 39 (odds), 41		
	Review	Do p. 212 # 1 - 99 (multiples of three)		
	Test on Chapter 5 (half a period)			
Chapter 6 - Measurement				
	Intro, Right Triangles and Pythagoras	Read and do p. 220 & 221		
	6.1 Congruent triangles	Read p. 222 & 224		
	Vocabulary - congruent triangles	Do p. 224 #1 - 9 (all), 12 - 20 (all), 24		
	6.2 Similar triangles	Read p. 228 & 229		
	Vocabulary - similar triangles	Do p. 230 #5 - 11 (odds), 12, 13		
	6.3 Right Triangles and the Tangent Ratio	Read p. 227 and Read p. 236 & 237		
	Vocabulary - hypotenuse, opposite side, adjacent side, tangent ratio,	Do p. 238 31 - 31 (odds)		
	6.4 Right Triangles and the Sine Ratio	Read p. 239 & 240		
	Vocabulary - sine ratio	Do p. 241 #1 - 33 (odds)		
	6.5 Right Triangles and the Cosine Ratio	Read p. 242 & 243		
	Vocabulary - cosine ratio	Do p. 244 #1 - 35 (odds), 36		
	6.6 Solving Right Triangles	Read p. 245 & 246 Do p. 247 #3 - 12 (multiples of three), 13, 14, 17		
	Review	Do p. 252 #1 - 24 (all)		
	Test on Chapter 6 (half a period)			
Chapter 7 - Shape and Space				
	7.1. Areas of Rectangles, Squares, and Circles	Read p. 260 & 261 Do p. 261 #1 - 7 (odds), 8, 10, 11		
	7.2 Areas of parallelograms, Triangles, and Trapezoids	Read p. 262 & 263 Do p. 264 #1 - 11 (odds)		
	7.3 Surface Area and Volume of a Prism	Read p. 268 & 269		
	Vocabulary - surface area, prism, composite solid, volume	Do p. 270 #1 - 4, 7, 9, 11, 16, 17, 22, 28		
	7.4 Surface Area and Volume of a Pyramid	Read p. 272 & 273		
	Vocabulary - pyramid, slant height	Do p. 274 #1, 7, 10, 11, 13		
	7.5 Surface Area and Volume of a Cylinder and a Cone	Read p. 276 & 277 Do p. 278 #1 - 11 (odds), 14		
	Review	Do p. 292 #1 - 29 (odds)		
	Test on Chapter 7 (half a period)			
Chapter 8 - Transformations				
	8.1 Translations	Read p. 300 & 301		
	Vocabulary - translation, mapping, sense	Do p. 301 #1 - 7 (all), 22 - 27 (all), 38, 40		
	8.2 Reflections	Read p. 303		
	Vocabulary - reflection, mirror line, image	Do p. 304 3 1, 5, 6, 9, 11, 16, 19, 26		
	8.3 Rotations	Read p. 306		
	Vocabulary - rotation	Do p. 307 #1 - 6 (all), 7 - 17 (odds), 23, 33		

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8.4 Dilatations Vocabulary - dilatations, scale factor, similar figures	Read p. 309 & 310 Do p. 310 #1 - 7 (odds), 14, 15 - 17		
8.5 Symmetry Vocabulary - line of symmetry, reflectional symmetry, rotational symmetry, order of rotational symmetry	Read p. 314 Do p. 315 #1 - 9 (all), 15 (at least 2 examples)		
Review	Do p. 320 #1 - 43 (odds)		
Test on Chapter 8 (half a period)			
Chapter 9 - Data Analysis and Probability			
9.1 Reading Scatter Plots Vocabulary - scatter plot 9.2 Drawing Scatter Plots	Read p. 330 Do p. 330 #1 - 5 (odds) Read p. 332 Do p. 333 #1 - 4		
9.3 Lines of Best Fit Vocabulary - interpolate, extrapolate, line of best fit	Read p. 334 Do p. 335 #1 (a - f), 3 (a - e)		
9.4 The Probability Formula Vocabulary - sample space, probability formula	Read p. 348 Do p. 349 #1 - 11 (odds)		
9.5 Independent Events Vocabulary - independent events, experimental probability, theoretical probability	Read p. 350 & 351 Do p. 351 #1 - 13 (odds)		
Review	Do p. 356 #1 - 7 (all)		
Test on Chapter 9 (half a period)			