

Instructions for using this outline: Assume that we will cover one section per class (we won't because of quizzes, enrichment activities and shortened periods, but you won't go wrong by doing more). If you miss a class you will know what to study. The assignments look fairly long – don't despair! For questions with multiple parts you are required to do the first and last part (for example, parts [a] and [g]). If you get these correct without difficulty then move on. If you experience any difficulties then attempt more questions (for example parts [b] and [f]). The idea is that you will tailor your homework to your specific difficulties. Homework is not meant to be tedious, but a certain amount of repetition is beneficial.

Note that the textbook divides the questions into parts A, B, and C (with the exception of the chapter reviews). I have assigned very few part A questions. I will leave it up to you to decide if you need to do part A questions for extra practice or to improve your understanding of a particular topic. I *do* expect you to do all of the questions assigned. I also expect you to mark your work (by checking the answers at the back) and I expect you to do corrections where necessary. Indicate on your homework assignments that you have marked the questions by using a red pen (or at least a different colour ink than what you used to write the answers).

If time permits I will try to hold a review class prior to each chapter test. In order to get the most out of the review class you must do the review questions and review your notes **prior** to the review class.

	Chapter 1 Number Sequences	Assignment	✓
1.1	<i>Arithmetic Growth</i> - A sequence of numbers with a common difference between terms.	Read p. 4 - 7, Do p. 7 #5 - 6, 9 - 112	
1.2	<i>The General Term of an Arithmetic Sequence</i> - a formula that describes any term in the sequence: $t_n = a + (n - 1)d$	Read p. 10 - 13, Do p. 13 #4 - 7, 9, 10, 13	
1.3	<i>The Sum of an Arithmetic Series</i> - put "plus" signs between each of the terms of an arithmetic sequence, and it's called an arithmetic series. The formula that gives you the total is: $S_n = n(a + t_n) / 2$	Read p. 17 - 20, Do p. 20 #2, 3, 5, 7, 10 - 13, 16	
1.4	<i>Geometric Growth</i> - A sequence of numbers with a common ratio between terms.	Read p. 23 - 27, Do p. 27 #3, 4, 8, 9, 12	
1.5	<i>Revisiting the Exponent Laws</i> - quick tricks for doing operations on power terms.	Read p. 32 - 35, Do p. 35 #10 - 12, 13 (all), 14, 16	
	Review of Chapter 1	Do p. 65 #1 - 6 (all)	

	Chapter 2 Real Numbers	Assignment	✓
2.1	<i>Radicals</i> - bomb-throwing extremists? - nope, it means "roots" of numbers	Read p. 68 - 72, Do p. 72 #5 - 9, 10 (all), 11 (all), 18 - 20	
2.2	<i>Extending the Exponent Laws to Rational Exponents</i> - fractions as exponents	Read p. 76 - 80, Do p. 80 #10 - 14, 16 (all), 18 (all), 19 (all), 23	
2.3	<i>Bird Eggs</i> - p. 94, 95 - use MS Excel to do this activity <i>only</i> if you like biology and are interested in how scientists come up with their theories using mathematics <i>Applications of Rational Exponents</i> - formulas involving growth	Nothing to formally do - just think about what you learned and ask Mr. Taylor about any parts you didn't understand. Read p. 86 - 90, Do p. 90 #3, 6, 7, 10, 13	
2.4	<i>The Pythagorean Theorem</i> - What an ancient Greek noticed about right angle triangles and how it upset their notions of numbers.	Read p. 96 - 98, Do p. 99 #2 - 5, 7, 10, 12	

2.5	<i>Irrational Numbers</i> - numbers that you cannot get by dividing one integer by another integer.	Read p. 101 - 104 and do p. 104 #7 - 8 (all), 11 - 12 (all).	
2.6	<i>Relating the Sides of Special Triangles</i> - irrational numbers pop all over the place	Read p. 108 - 110, Do p. 110 #3 - 6, 11 - 13, 17, 20	
2.7	<i>Multiplying Radicals</i> - Don't turn your back on them - they breed like rabbits!	Read p. 116 - 119, Do p. 119 #10, 11, 14 (all), 18 - 20 (all), 23, 26	
2.8	<i>Dividing Radicals</i> - They are less dangerous if they are divided!	Read p. 123 - 126, Do p. 127 #3 - 4, 6 (all), 9 - 13, 14	
2.9	<i>Adding and Subtracting Radicals</i> - just like adding and subtracting terms!	Read p. 129 - 132, Do p. 132 #6 - 8, 12, 13, 15, 18, 21	
2.10	<i>Combined Operations with Radicals</i> - a nifty trick to turn an irrational denominator into a rational one.	Read p. 135 - 137, Do p. 138 #4 - 7, 9 - 16, 19, 21	
	Review of Chapter 2	Do p. 141 - 142 #1 - 19	

	Chapter 3 Line Segments	Assignment	✓
3.1	<i>Length of a Line Segment</i> - Pythagoras pops up again!	Read p. 146-148, Do p. 149 #6, 8-11, 13-18, 25	
3.2	<i>Shortest Networks</i> - p. 154, 155 - read the text even if you decide not to go for the bonus marks. <i>Midpoint of a Line Segment</i> – kind of a “double average”	For bonus marks, do questions 1-5 on p. 154-155 using Excel, and hand in your work before the Ch. 3 test - no penalty for not handing anything in. Read p. 156-158, Do p. 158 #4-11, 14, 18, 20, 22	
3.3	<i>Slope of a Line Segment</i> - “steepness” defined	Read p. 162-165, Do p. 166 # 8, 10-12, 16-18, 22	
3.4	<i>Slopes of parallel Line Segments</i> - segments that have the same “steepness”	Read p. 175-177, Do p. 177 # 7-9, 13-15	
3.5	<i>Solving Equations of the Form ...</i> - p. 182, 183 <i>Slopes of Perpendicular Line Segments</i> - segments whose slope values are negative reciprocals of each other!	Everyone must read this. If your interim mark was below 75% you must hand in #1-7 (do every second part on multi-part questions). Due date to be announced. Read p. 184-186, Do p. 187 #9, 11-12, 15, 18, 21	
	Review of Chapter 3	Do p. 192 all	

	Chapter 4 The Straight Line	Assignment	✓
4.1	<i>Using an Equation to Draw a Graph</i> -	Read p. 198 - 201, Do p. 202 #4 - 6, 9, 10	
4.2	<i>The Slope of a Line</i> - Is there any difference between the slope of a line segment and the slope of the whole line?	Read p. 207 - 210, Do p. 211 #8, 10, 12, 15, 17, 19	
4.3	<i>The Equation of a Line: Part I</i> - the “slope - intercept” form.	Read p. 214 - 217, Do p. 217 # 6, 9 - 11, 20 - 22	
4.4	<i>Patterns in Equations and Lines</i> - p. 221 <i>The Equation of a Line: Part II</i> - finding the equation of a line, given minimal information about the line	For bonus marks, read and hand in your answers before the Ch. 4 test. Read p. 224 - 225, Do p. 226 # 6, 9, 11, 13, 15	
4.5	<i>Interpreting the Equation $Ax + By + C = 0$</i> - extracting information about the intercepts and slope of a line when its equation is given in standard form	Read p. 229 - 232, Do p. 233 # 6, 9 - 12, 18, 21	
	Review of Chapter 4	Do p. 241 all	

	Chapter 5 Functions	Assignment	✓
5.1	<i>What is a function?</i> - not the social kind - the math kind!	Read p. 246 - 249, Do p. 250 # 5 - 7, 11, 15, 16	
5.2	<i>Interpreting Graphs of Functions</i> - What do all those wavy lines mean?	Read p. 255 - 258, Do p. 258 # 8, 13, 14, 16	
5.3	<i>Finding Relationships in Data</i> – Did you ever think we’d spend our time in math class talking about relationships!	Read p. 266 - 269, Do p. 269 # 4 - 7, 11 – 13, 15	
5.4	<i>Linear Functions: Part I</i> - non-vertical straight lines <i>The Line of Best Fit</i> - p. 286, 287	Read p. 274 - 279, Do p. 279 # 3, 5, 8 - 11, 14, 16, 18, 19, 22 Take a look at this if you have a graphing calculator and you want to learn about some of its more advanced features.	
5.5	<i>Use a Graph</i> - p. 288, 289 <i>Linear Functions: Part II</i> - graphs that model direct variation	Read p. 288 and do p. 289 # 1 - 4, 8 Read p. 290 - 294, Do p. 295 # 4, 6, 9, 11, 14, 16	
5.6	<i>Function Notation</i> - mathematical symbols for functions	Read p. 304 - 307, Do p. 307 # 4 - 7, 9, 10, 15, 16, 18	
5.7	<i>Absolute Value</i> - p. 310, 311 <i>Relations</i> - “functions” that break the “rules” and give you “two for one” or better. <i>Classifying Functions</i> - p. 319	Read p. 310 - 311 and do p. 310 # 1 - 6 Read p. 312 - 316, Do p. 316 # 5 - 7, 9, 11 We’ll take a look at this if time permits.	
	Review of Chapter 5	Do p. 320 all	

	Chapter 6 Polynomials	Assignment	✓
6.1	<i>Measurement Formulas and Monomials</i> - Spheres and Cubes	Read p. 326 - 328, Do p. 328 # 8, 11, 14, 18, 19, 20	
6.2	<i>Archimedes of Syracuse</i> p. 332 <i>Multiplying and Dividing Monomials</i> - doing operations on small algebraic expressions	Everyone must read this and try #1 & #2. Read p. 333 - 334, Do p. 335 # 9 - 10, 12, 13, 17, 19, 20	
6.3	<i>Adding and Subtracting Polynomials</i> - doing operations on bigger algebraic expressions	Read p. 340 - 341, Do p. 341 # 8 - 13	
6.4	<i>Multiplying Monomials and Polynomials</i> - doing operations on small and bigger algebraic expressions all mixed up	Read p. 344 - 347, Do p. 347 # 4 - 6, 14, 16, 17, 19, 21, 26	
6.5	<i>Multiplying Polynomials</i> – many steps, but a simple, straightforward method	Read p. 354 - 356, Do p. 356 # 7, 10, 17 - 19, 21, 22	
6.6	<i>Graphing the Surface Area and Volume of a Box</i> - p. 361 <i>Factoring Trinomials of the Form $x^2 + bx + c$</i> – Mixing things up is easy – separating them is harder. It’s the same with multiplication and factoring.	Try this if you have a TI-83. Read p. 362 - 364, Do p. 364 # 5 - 6, 8, 9, 12, 13, 16, 20, 25	
6.7	<i>Factoring Trinomials of the Form $ax^2 + bx + c$</i> – These can be much more complicated, but we have a choice of at least three different methods! Find one you like.	Read p. 369 - 371, Do p. 371 # 5, 6, 8, 10, 15, 21	
6.8	<i>Factoring a Difference of Squares</i> - memorize the pattern	Read p. 374 - 376, Do p. 376 # 4 – 7, 14	
6.9	<i>Solving Quadratic Equations</i> - the easy kind, that factor rather neatly, rely on the “Zero Principle”	Read p. 380 - 383, Do p. 384 # 2 - 5, 10, 11	
6.10	<i>Dividing a Polynomial by a Binomial</i> - so you loved long division in grade 5 arithmetic? Now try it on algebraic expressions - surprise - it’s the same thing! (well, almost)	Read p. 386 - 389, Do p. 389 # 8 - 10, 12, 17, 20	
	Review of Chapter 6	Do p. 393 all	

	Chapter 7 Rational Expressions	Assignment	✓
7.1	<i>Evaluating Rational Expressions</i> - “Plugin” questions with cautions.	Read p. 400 - 402, Do p. 402 # 4 - 8, 11 - 16	
7.2	<i>Simplifying Rational Expressions</i> - reducing fractions all over again! <i>Verifying Rational Simplifications</i> - p. 410	Read p. 405 - 407, Do p. 407 # 4 - 5, 7, 8, 11 - 13 Try these questions if you have access to graphing software.	
7.3	<i>Multiplying and Dividing rational Expressions</i> - operations on algebra fractions.	Read p. 411 - 413, Do p. 413 # 7, 11, 12, 15, 16	
7.4	<i>Adding and Subtracting Rational Expressions: Part I</i> - remember common denominators?	Read p. 418 - 420, Do p. 421 # 5 - 8, 11 - 13, 18, 20, 22	
7.5	<i>Adding and Subtracting Rational Expressions: Part II</i> - ugly, horrible, long expressions to perform operations on!	Read p. 426 - 428, Do p. 428 # 4 - 7, 11, 13, 14, 17, 19	
7.6	<i>Solving Equations Involving Rational Expressions</i> - self explanatory	Read p. 431 - 433, Do p. 434 # 5, 7, 8, 11	
7.7	<i>Applications of Rational Expressions</i> - self explanatory again! <i>Exploring Averages</i> - p. 442, 443	Read p. 436 - 439, Do p. 439 # 7, 9, 10, 13 Read p. 442 and try the questions on p. 442 and p. 443.	
	Review of Chapter 7	Do p. 393 all	

	Chapter 8 Trigonometry	Assignment	✓
8.1 - 8.4	<i>Sine, Cosine and Tangent ratios in Right Triangles</i> – These sections are a review of grade 9 material. We will only spend one or two classes on this.	Read the sections and do as many questions as necessary, to refresh your understanding of the material.	
8.5	<i>Defining the Sine and Cosine of an Obtuse Angle</i> - definitions of sine and cosine that are based on the “Unit Circle”	Read p. 490 - 496, Do p. 496 # 5, 7 Read sections 8.1-8.4 again if necessary.	
8.6	<i>Solving Triangles That Are Not Right-Angled</i> - solution? - turn them into right angle triangles!	Read p. 499 - 503, Do p. 503 # 1 - 7	
8.7	<i>The Sine Law</i> - a good shortcut for 8.6	Read p. 505 - 509, Do p. 509 # 4, 10, 11, 15, 17	
8.8	<i>The Cosine Law</i> - the other shortcut for 8.6	Read p. 513 - 517, Do p. 517 # 5, 7, 12, 20, 28	
	Review of Chapter 8	Do p. 524 all	

	Chapter 9 Statistics	Assignment	✓
9.1	<i>The Nature of Surveys</i> - or, “Don’t Believe Everything You Read!”	Read p. 530 - 533, Do p. 533 # 1 - 8, 11, 12	
9.2	<i>Random Numbers</i> - p. 536, 537 <i>Methods of Sampling</i> - the key to the believability of survey results.	Everyone must read this. Read p. 538 - 539, Do p. 540 # 1 - 3, 5, 6, 9, 10, 12, 13	
9.3	<i>Make a Sampling Box</i> - p. 543 <i>From Population to Sample</i> - box plots for binomial outcomes	Everyone must read this. Read p. 545 - 549, Do p. 549 # 1 - 7, 9 - 11, 14, 15	
9.4	<i>From Sample to Population</i> - how accurately do samples represent the populations they are drawn from? <i>Estimating the Size of a Wildlife Population</i> - p. 560, 561	Read p. 555 - 557, Do p. 557 # 1 - 9, 12 - 14 Everyone must read p. 560.	