Little Flower Academy – Mathematics 11 – Mr. Taylor

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.

For the purposes of homework checks I will focus on the part B and C questions that I have assigned. I expect you to do all of the assigned questions, but if you skip some part A questions because they are routine, that's OK. I also expect you to mark your work and do corrections where appropriate.

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 2 – Quadratic Functions		✓
2.1	*Graphs of Quadratic Functions* – on paper and with your TI-83 calculator	Read p. 88-93 and do p. 94 #1-7, 9-15	
2.2	*Modeling Real Situations Using Quadratic Functions* – word problems that involve quadratic functions	Read p. 101-104 and do p. 105 #1, 4, 5, 8, 9, 11	
2.3	*Graphing* $y = a(x-p)^2 + q$ – the easiest way to understand the effect of different coefficients	Read p. 109-115 and do p. 115 #1-4, 9, 10, 13, 14, 15, 20	
2.4	*Graphing* $y = ax^2 + bx + c$ – a little bit more difficult to see the effect of the different coefficients	Read p. 122-123 and do p. 124 #1, 3-6, 8, 10, 12, 14	
2.5	*Maximum and Minimum Problems* – a very important application of quadratic functions	Read p. 127-129 and do p. 130 #2, 4, 6, 8, 10, 12, 14, 16	
2.6	*The Inverse of a Linear Function* – what happens when you replace *x* with *y* and vice-versa?	Read p. 133-135 and do p. 136 #1, 2, 4-7	
2.7	*The Inverse of a Quadratic Function* – reflection through the line $y = x$	Read p. 138-139 and do p. 140 #1-6	
	Review of Chapter 2	On p. 148 do #1-14 (all)	

	Chapter 3 – Polynomial and Rational Functions		✓
3.1	*Polynomial Functions* – of which quadratic functions were just a subset	Read p. 156-159 and do p. 160 #1-4, 6-9	
3.2	*Properties of the Graphs of Polynomial Functions* – relative and absolute minimum/maximum	Read p. 163-165 and do p. 166 #1-7	
3.3	*Relating Polynomial Functions and Equations* – looking at the roots of quadratics, cubics and quartics	Read p. 167-172 and do p. 173 #1-3, 5-8, 10, 12, 14, 16-18	
3.4	*Solving Polynomial Equations* – graphical solutions	Read p. 178-179 and do p. 180 #1, 4, 7	
3.5	*Modeling Real Situations Using Cubic Functions* – thinking about volume	Read p. 182-184 and do p. 185 #1, 3, 6, 7, 9	
3.6	*Reciprocal Functions* – undefined values and vertical asymptotes	Read p. 191-194 and do p. 194 #1-3, 5, 9-14	
3.7	*Rational Functions* – one polynomial divided by another	Read p. 198-199 and do p. 200 #1-3, 5-8, 12, 15	

3.8	*Modeling Real Situations Using Rational Functions* – examining a problem that will be all too familiar to most of you very soon	Read p. 203-205 and do p. 206 #1, 3-5	
3.9	*Composition of Functions* – what happens when the argument of a function is another function?	Read p. 214-215 and do p. 216 #1-5, 7-11, 14-16, 19-21	
	Review of Chapter 3	On p. 221-222 do #1-10 (all)	

	Chapter 4 – Analysis of Equations and Inequalities		✓
4.1	*The Quadratic Formula* – very useful when you can't factor a quadratic	Read p. 226-230 and do p. 231 #1, 3, 6-11, 14	
4.2	*The Nature of the Roots of a Quadratic Equation* – pay attention to the discriminant	Read p. 240-243 and do p. 244 #1, 3, 5-10, 14	
4.3	*The Remainder Theorem* – finding factors using a shortcut	Read p. 251-253 and do p. 254 #1-3, 5-8	
4.4	*The Factor Theorem* – how to determine if you really have a factor	Read p. 255-258 and do p. 259 #1-2, 5-6, 11-15, 18	
4.5	*Solving Polynomial Inequalities* – back to polynomials	Read p. 261-263 and do p. 264 #1-5, 9-13	
4.6	*Solving Rational Equations and Inequalities* – don't forget everything from the last chapter!	Read p. 267-272 and do p. 273 #1-2, 4-7, 12-13, 15	
4.7	*Solving Radical Equations and Inequalities* – be careful with the extraneous roots	Read p. 278-283 and do p. 284 #1-5, 8-10, 16	
4.8	*Solving Absolute Value Equations and Inequalities* – I'm absolutely sure you'll like this section	Read p. 287-293 and do p. 294 #1-6, 11-15	
	Review of Chapter 4	On p. 296-297 do #1-22 (all)	

	Chapter 5 – Systems of Equations and Inequalities		✓
5.1	*Solving Systems of Equations by Graphing* – intersecting lines and curves	Read p. 302-305 and do p. 305 #2, 4, 5, 8, 9, 12	
5.2	*Solving Linear Systems by Addition or Subtraction* – equations can be added and subtracted too	Read p. 310-314 and do p. 315 #5-8, 14-17, 19	
5.3	*Number of Solutions of a Linear System* – where do the lines intersect? Do they intersect at all?	Read p. 319-321 and do p. 321 #3-6, 10	
5.4	*Solving Systems by Substitution* – when adding and subtracting don't seem to be easy	Read p. 323-324 and do p. 325 #4-11, 18	
5.5	*Problems Involving Linear Systems* – a look at how far reaching the applications of this type of problem are	Read p. 333-334 and do p. 335 all odd questions	
5.6	*Solving Linear Systems in Three Variables* – it's harder to visualize, but the concepts are the same	Read p. 337-340 and do p. 341 #1, 3, 5, 7, 10-11	
5.7	*Graphing Linear Inequalities in Two Variables* – which side of the line is shaded?	Read p. 348-349 and do p. 350 #1-4, 6-9	
5.8	*Graphing Systems of Linear Inequalities* – what regions are shaded always	Read p. 352-353 and do p. 354 #1, 3, 4, 7-10	
	Review of Chapter 5	On p. 364-365 do #1-16 (all)	

	Chapter 7 & 8 – Plane Geometry		✓
	You will receive a separate package for the material covered in these two chapters. However, you can still use the text as a reference and a source of problems.	Questions from geometry package	

	Chapter 9 – Coordinate Geometry		✓
9.1	*The Equation of a Circle* – the reasoning of science	Read p. 522-524 and do p. 525 #1-5, 9-12, 15-17, 19-20	
9.2	*Problems Involving Circles and Lines* – the reasoning of mathematics	Read p. 529-531 and do p. 531 #1-4, 6-7, 10-12, 15-16	

9.3	*Problems Involving Points and Lines* – making statements and disproving them	Read p. 536-538 and do p. 540 #3-7, 9-14	
9.4	*Using Coordinates to Verify Conjectures* – logical connectives	Read p. 545-547 and do p. 547 #5, 8, 12, 14	
9.5	*Using Coordinates to Prove Conjectures* – conditional statements	Read p. 550-552 and do p. 553 #5, 7-8, 11	
	Review of Chapter 6	On p. 558-561 do #1-21 (all)	