**Rational:** Analyzing graphs of functions when exponents are positive, negative and rational. Solving radical equations. Using leading coefficient to determine end behavior. Determining zeros. Modeling data. Polynomial division. Remainder, Factor and Rational Root Theorems. Holes in a graph. Solving rational equations.

**Essential question:** What are the various methods to solve for a variable?

**Open Labs:**

Graphing Technology Lab – Behavior of Graphs

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| --- | --- | --- |
| Lesson/Objectives | Practice Problems/ACT | Due Date |
| Lesson 2-1 Power and Radical FunctionsObjectives* Graph and analyze power functions
* Graph and analyze radical functions and solve radical equations.
 | page 92 Graph each using a calculator then so a quick sketch on your paper #5, 6, 9, 10, 17, 22-25, 37, 39, 40, 44, 49, 53, 55, 70-73. ACT Prep 100, 101, 103  |  |
| Lesson 2-2 Polynomial FunctionsObjectives* Graph polynomial functions.
* Model real-world data with polynomial functions.
 | pg104 #1-4, 17, 18, 23, 27, 29, 33, 40, 50-53, 64-67, 76-77 (just graph), 110-112 |  |
| Lesson 2-3 The Remainder and Factor TheoremsObjectives* Divide polynomials using long division and synthetic division.
* Use the Remainder Theorem and Factor Theorems.
 | Page 115 #2, 5(take out the gcf first), 7, 11, 14, 21, 23, 30, 31, 36, 39, 41, 53, ACT 80, 81, 83 |  |
| **Quiz** | Page 118 #1-4, 6-15, 17-25 Are for practice. |  |
| Lesson 2-4 Zeros of Polynomial FunctionsObjectives* Find real zeros of polynomial functions.
* Find complex zeros of polynomial functions.
 | Page 127 # 1, 3, 10, 19, 21, 26, 28, 35, 37, 51, 73, ACT Problems 96-98.  |  |
| Lesson 2-5 Rational FunctionsObjectives* Analyze and graph rational functions
* Solve rational equations.
 | (you will need graph paper) page 138 #4, 5, 9, 11, 22, 27, 33, 34, 36, 43, ACT Prep 77-80 |  |
| Lesson 2-6 Nonlinear InequalitiesObjectives* Solve polynomial inequalities
* Solve rational inequalities.
 | page 145 #3, 6, 9, 10, 13, 21, 23, 25, 28, 37, 63, ACT Practice 80-81 |  |
| Review Day | Page 149-151 #1-73.  |  |
| **Test over Lap 1 in the Testing Center** | **SUMMATIVE ASSESSMENT** |  |