## TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 1 | Monday, 1/4 | FACULTY AND STAFF PROFESSIONAL LEARNING DAY / STUDENT HOLIDAY |  |  |  |
|  | Tuesday, 1/5 | 6-3 \&6-5 Review | Assessment | Classwork: Worksheet to review concepts from 6-3 and 6-5 prior to starting 6-4 tomorrow | MCC9-12.A.REI. 11 <br> MCC9-12.A.REI. 2 <br> MCC9-12.A.CED. 3 <br> MCC9-12.A.CED. 1 <br> MCC9- <br> 12.A.APR.7+ |
|  | Wednesday, 1/6 | 6-4: Rational Functions | Graph Rational Functions <br> Transform rational functions by changing parameters | Warm Up: basic factoring review <br> Key Vocabulary: rational function, vertical asymptote, horizontal asymptote, discontinuous function, continuous function <br> - Notes on the parent graph of rational functions and their transformations <br> Homework: pg. 211 \#2-7 | MCC9-12.F.BF. 3 <br> MCC9-12.F.IF. 5 <br> MC9-12.F.IF.7d(+) |
|  | Thursday, 1/7 | 6-4: Rational Functions | Graph Rational Functions <br> Transform rational functions by changing parameters | Warm Up: basic factoring review <br> Key Vocabulary: rational function, vertical asymptote, horizontal asymptote <br> - Continue examples on the parent graph of rational functions and their transformations <br> - Notes on identifying vertical and horizontal asymptotes, domain, and range of rational functions using their equations \& graphs <br> Homework: pg. 211 \#17-22 | MCC9-12.F.BF. 3 <br> MCC9-12.F.IF. 5 <br> MC9-12.F.IF.7d(+) |
|  | Friday, 1/8 | 6-4: Rational Functions | Graph Rational Functions <br> Transform rational functions by changing parameters | Warm Up: basic factoring review <br> Key Vocabulary: rational function, vertical asymptote, horizontal asymptote, zeros, slant asymptote <br> - Notes on using a calculator to graph rational functions with a polynomial in the numerator <br> - Notes on identifying vertical, horizontal, and slant asymptotes, zeroes, domain, and range of rational functions using their equations \& graphs <br> Homework: pg. 211 \#8-10, 14-16 | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |

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| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 2 | Monday, 1/11 | 6-4: Rational Functions | Graph Rational Functions <br> Transform rational functions by changing parameters | Classwork: Students will work in groups to review graphing of rational functions and listing their characteristics | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |
|  | Tuesday, 1/12 | 6-4: Rational Functions | Assessment | 6-4 Quiz (Graphing rational functions without holes) | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |
|  | Wednesday, 1/13 | 6-4: Rational Functions | Graph Rational Functions <br> Transform rational functions by changing parameters | Warm Up: give a rational function problem to identify its characteristics <br> Key Vocabulary: holes in graphs of rational functions Examples on graphing and identifying those functions with holes in their graphs <br> Classwork/Homework: pg. 211 \#33-38 (graph each) | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |
|  | Thursday, 1/14 | 6-4: Rational Functions | Review | Students will work in groups to review concepts from 6-4 | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |
|  | Friday, 1/15 | 6-4 Test | Assessment | 6-4 Test | MCC9-12.F.BF. 3 MCC9-12.F.IF. 5 MC9-12.F.IF.7d(+) |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 3 | Monday, 1/18 | MLK HOLIDAY |  |  |  |
|  | Tuesday, 1/19 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warm Up: evaluate radical parent function for different values of $x$ and graph the points <br> Key Vocabulary: radical function, square root function, vertical compression, horizontal compression <br> - Discuss transformations of radical functions (focus on compressions since we did not do this with rational functions) <br> - Talk about the shape of radical functions Homework: pg. 232 \#8-16 (list transformations only) | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Wednesday, 1/20 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warmup: List the transformations of a square root function <br> - Have students develop square root function by taking the inverse of $x^{2}$ <br> Discuss domain and range of square root function Create chart of transformations Notes on graphing square root functions using transformations <br> Homework: p. 232 \#30-38 | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Thursday, 1/21 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warmup: Graph a square root function <br> - Discuss domain and range of cube root function <br> - Create chart of transformations <br> - Notes on graphing cube root functions using transformations <br> Homework: p. 232 \#5-7, 27-29 | $\begin{aligned} & \text { MCC9-12.F.IF. } 5 \\ & \text { MCC9-12.F.IF.7b } \\ & \text { MCC9-12.F.BF. } \end{aligned}$ |
|  | Friday, 1/22 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warmup: Graph a cube root function <br> Classwork: Students will work on a worksheet involving graphing square root and cube root functions and listing their transformations. | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 4 | Monday, 1/25 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warmup: List the domain and range of a square root and cube root function <br> - Review Homework <br> - Notes on Inequalties <br> - Notes on graphing radical inequalities <br> Homework: p. 232 \#20-23, 43-46 | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Tuesday, 1/26 | 7-1: Radical Functions | Graph radical functions and inequalities <br> Transform radical functions by changing parameters | Warmup: Graph a radical inequality <br> - Review Homework <br> - Notes on writing radical functions based on transformations <br> Homework: p. 232 \#17-18, 39-41 | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Wednesday, 1/27 <br> Performance Essay English | 7-1: Radical Functions | Review | Classwork: Students will work in groups to review concepts from 7-1 including graphing radical functions and writing radical functions based on transformations | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Thursday, 1/28 | 7-1: Radical Functions | Assessment | 7-1 Quiz | MCC9-12.F.IF. 5 MCC9-12.F.IF.7b MCC9-12.F.BF. 3 |
|  | Friday, 1/29 | 7-2: Solving <br> Radical <br> Equations \& Inequalities | Solve radical equations and inequalities | Warm Up: Solve quadratic by square root method Key Vocabulary: radical equation, radical inequality <br> - Notes on solving equations with one radical <br> - Independent practice on this concept <br> - Notes on solving equations with two radicals Homework: p. 241 (27-35) | MCC9-12.A.REI. 2 |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 5 | Monday, 2/1 | 7-2: Solving Radical Equations \& Inequalities | Solve radical equations and inequalities | Warm Up: extraneous solution check <br> Key Vocabulary: radical equation, radical inequality <br> - Review homework <br> - Have students solve an equation with an extraneous solution to see if they catch it <br> - Notes on solving equations with rational exponents <br> - Notes on solving radical inequalities <br> - Classwork: 5 problems to turn in <br> Homework: p. 241-243 (36-44) | MCC9-12.A.REI. 2 |
|  | Tuesday, 2/2 | 7-2: Solving Radical Equations \& Inequalities | Solve radical equations and inequalities | Warmup: Solve a radical inequality <br> Classwork: Students will work on a carousel activity in pairs to review solving radical equations and inequalities | MCC9-12.A.REI. 2 |
|  | Wednesday, 2/3 | Ch. 7 Review | Assessment | Classwork: Students will work in groups to review all concepts from ch. 7 | MCC9-12.F.IF. 5 <br> MCC9-12.F.IF.7b <br> MCC9-12.F.BF. 3 <br> MCC9-12.A.REI. 2 |
|  | Thursday, 2/4 | Ch. 7 Test | Assessment | Module 7 Test | MCC9-12.F.IF. 5 <br> MCC9-12.F.IF.7b <br> MCC9-12.F.BF. 3 <br> MCC9-12.A.REI. 2 |
|  | Friday, 2/5 | Benchmark Review |  | Benchmark Review - collaborative pairs/groups | All previous standards |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 6 <br> Benchmark <br> Week \#1 | Monday, 2/8 ENGLISH | Benchmark Review |  | Benchmark Review - collaborative pairs/groups | All previous standards |
|  | Tuesday, 2/9 MATH | Benchmark Review |  | Benchmark \#1 | All previous standards |
|  | Wednesday, 2/10 ELECTIVES | 8-2: Inverses of <br>  <br> Functions |  | Warm Up: Solving an equation for y in terms of x Key Vocabulary: inverse relation, inverse function <br> - Notes on graphing inverse relations over the line $y=x$ <br> - Graph relations then graph their inverse identifying domain and range of each <br> - Write inverses of functions using inverse operations Homework: pg. 269 \#2-13, 18,19 | MCC9-12.F.BF.4c MCC9-12.F.BF.4a MCC9-12.A.CED. 2 |
|  | Thursday, 2/11 SCIENCE | 8-2: Inverses of Relations \& Functions |  | Warm Up: Write the inverse of a function <br> - Notes on graphing linear functions and their inverses over the line $y=x$ <br> Homework: pg. 270 \#14-16, 20-28 | MCC9-12.F.BF.4c MCC9-12.F.BF.4a MCC9-12.A.CED. 2 |
|  | Friday, 2/12 SOCIAL STUDIES | 8-1: Exponential Functions, Growth \& Decay | Write and evaluate exponential expressions to model growth and decay | Warm Up: Evaluating exponential functions <br> Key Vocabulary: exponential function, base, asymptote, exponential growth \& decay <br> - Notes on identifying growth vs decay <br> - Discuss exponential functions and what they look like <br> - Discuss asymptotes <br> Classwork: pg. 261 \#2-4, 7-9 (also add in problems on finding the asymptote) | MCC9-12.F.IF.7e MCC9-12.A.CED. 2 |

Buford High School CURRICULUM CALENDAR 2015-2016

| COURSE: Advanced Algebra | SEMESTER: Spring 2016 |
| :--- | :--- |
| TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen |  |


| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 7 | Monday, 2/15 | Winter Holiday |  |  |  |
|  | Tuesday, 2/16 |  |  |  |  |
|  | Wednesday, 2/17 |  |  |  |  |
|  | Thursday, 2/18 | FACULTY AND STAFF PROFESSIONAL LEARNING DAY / STUDENT HOLIDAY |  |  |  |
|  | Friday, 2/19 |  |  |  |  |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 8 | Monday, 2/22 | Review | Assessment | Warmup: Write and graph the inverse of a linear function <br> Classwork: Students will work in groups to review inverse functions, writing inverses, and identifying growth and decay. | MCC9-12.F.IF.7e <br> MCC9-12.A.CED. 2 <br> MCC9-12.F.BF.4c <br> MCC9-12.F.BF.4a |
|  | Tuesday, 2/23 | 8-1: Exponential Functions, Growth \& Decay | Write and evaluate exponential expressions to model growth and decay | Warm Up: Questions covering growth \& decay concepts Key Vocabulary: exponential function, base, asymptote, exponential growth \& decay <br> - Notes on graphing exponential functions <br> - Notes on finding the domain and range of exponential functions <br> Homework: Assign students problems to graph | MCC9-12.F.IF.7e MCC9-12.A.CED. 2 |
|  | Wednesday, 2/24 <br> Performance Essay Math |  |  | Math Performance Essay |  |
|  | Thursday, 2/25 | 8-1: Exponential Functions, Growth \& Decay | Write and evaluate exponential expressions to model growth and decay | Warm Up: Graph and list the domain and range of an exponential function <br> Key Vocabulary: exponential function, base, asymptote, exponential growth \& decay <br> - Solving word problems using exponential functions <br> - Discuss how to solve these using a calculator Homework: worksheet with word problems | MCC9-12.F.IF.7e MCC9-12.A.CED. 2 |
|  | Friday, 2/26 | Review | Assessment | Classwork: Students will work in groups to review all concepts from 8-1 and 8-2 including exponential functions, writing inverses, graphing inverses, and solving word problems | MCC9-12.F.IF.7e <br> MCC9-12.A.CED. 2 <br> MCC9-12.F.BF.4c <br> MCC9-12.F.BF.4a |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 9 | Monday, 2/29 | 8.1-8.2 Quiz | Assessment | 8.1-8.2 Quiz | MCC9-12.F.IF.7e <br> MCC9-12.A.CED. 2 <br> MCC9-12.F.BF.4c <br> MCC9-12.F.BF.4a |
|  | Tuesday, 3/1 | 8-3: Logarithmic Functions | Write equivalent forms for exponential and logarithmic functions | Warm Up: Review rational exponents from $1^{\text {st }}$ semester Key Vocabulary: logarithm, common logarithm <br> - Notes on logarithms as inverses of exponential expressions/equations <br> - Examples on converting from Exponential to Logarithmic Form and vice-versa <br> - Evaluating logarithms using mental math/operations Homework: pg. 277 \#2-13, 17-28 | MCC9-12.F.BF.5+ |
|  | Wednesday, 3/2 <br> Performance Essay <br> Social Studies | 8-3: Logarithmic Functions | Write equivalent forms for exponential and logarithmic functions | Warm Up: pg. 280 \#19-31 odd Students will complete review problems from section 8-3 found in the student workbook | MCC9-12.F.BF.5+ |
|  | Thursday, 3/3 | Ch. 8 Review | Assessment | Review for Module 8 test - students will work in collaborative pairs/groups in order to complete the assignment/activity | All module 8 standards |
|  | Friday, 3/4 | Ch. 8 Test | Assessment | Module 8 Test | All module 8 standards |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 10 | Monday, 3/7 | 9-1: Properties of Logarithms | Use properties to simplify logarithmic expressions | Warm Up: Use warm up on PowerPoint presentation CD <br> - Notes on Product Property, Quotient Property, Inverse, and Power Property of Logarithms <br> - Examples of simplifying logarithms using properties Homework: pg. 288 \#1-14, 20-24 | MCC9-12.F.BF.5+ MCC9-12.F.IF.8b |
|  | Tuesday, 3/8 | 9-1: Properties of Logarithms | Use properties to simplify logarithmic expressions <br> Translate between logarithms in any base | Review of Homework <br> - Notes on Change of Base Formula <br> Classwork/Homework: pg. 288-9 \#25-34, 37-45, worksheet on expanding and condensing logs | MCC9-12.F.BF.5+ MCC9-12.F.IF.8b |
|  | Wednesday, 3/9 | 9-2: Exponential <br> \& Logarithmic <br> Equations \& Inequalities | Solve exponential and logarithmic equations | Warm Up: Simplifying Logarithmic Expressions Key Vocabulary: exponential \& logarithmic equations <br> - Notes on solving exponential equations using common bases and logarithms <br> Homework: pg. 296 \#2-16 all | MCC9-12.F.LE. 4 MCC9-12.F.BF.5+ |
|  | Thursday, 3/10 | 9-2: Exponential \& Logarithmic Equations \& Inequalities | Solve exponential and logarithmic equations | Warm Up: Review previous night's homework <br> - Solving logarithmic equations using properties and exponents to rewrite <br> Classwork: Students will add the following to previous night's homework - pg. 296 \#21-33 | MCC9-12.F.LE. 4 <br> MCC9-12.F.BF.5+ |
|  | Friday, 3/11 | Review | Assessment | Classwork: Students will work on a worksheet in pairs to practice concepts from 9.1-9.2, this will be turned in for a grade | MCC9-12.F.LE. 4 MCC9-12.F.BF.5+ MCC9-12.F.IF.8b |

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| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 11 | Monday, 3/14 | FACULTY AND STAFF PROFESSIONAL LEARNING DAY / STUDENT HOLIDAY |  |  |  |
|  | Tuesday, 3/15 | 9-3: The Natural Base, e | Solve equations and problems involving e or natural logarithms | Warmup: Solve a logarithmic equation <br> - Notes on simplifying expressions with e or In <br> - Solving logarithmic and exponential equations with e and In <br> Homework: pg. 302 \#6-12, 17-22 | MCC9-12.F.BF.5+ MCC9-12.A.CED. 2 |
|  | Wednesday, 3/16 <br> Performance Essay Science | 9-3: The Natural Base, e | Solve equations and problems involving e or natural logarithms | Review previous night's homework <br> - Notes on solving word problems using logarithmic and exponential equations (include problems with e and In ) <br> Homework: worksheet on solving word problems | MCC9-12.F.BF.5+ MCC9-12.A.CED. 2 |
|  | Thursday, 3/17 <br> Early Release <br> Professional <br> Learning $\left(1^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}, 5^{\text {th }}\right)$ | 9-3: The Natural Base, e | Solve equations and problems involving e or natural logarithms | Warm Up: pg. 306 \#1-33 odd Students will complete review of section 9-3 from the student workbook | MCC9-12.F.BF.5+ MCC9-12.A.CED. 2 |
|  | Friday, 3/18 <br> Early Release <br> Professional <br> Learning <br> $\left(7^{\text {th }}, 6^{\text {th }}, 4^{\text {th }}, 5^{\text {th }}\right)$ | 9-3: The Natural Base, e | Solve equations and problems involving e or natural logarithms | Warm Up: pg. 306 \#1-33 odd Students will complete review of section 9-3 from the student workbook | MCC9-12.F.BF.5+ MCC9-12.A.CED. 2 |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 12 | Monday, 3/21 | Ch. 9 Review | Review | Review of Module 9 - assign pg. 306 \#2-32 even <br> Use supplemental materials if necessary to keep students engaged throughout the period | All module 9 standards |
|  | Tuesday, 3/22 | Ch. 9 Test | Assessment | TEST MODULE 9 | All module 9 standards |
|  | Wednesday, 3/23 | 12-3: Piecewise Functions | Write and graph piecewise functions. <br> Use piecewise functions to describe real-world situations. | Warm Up: Use warm up given on teacher PowerPoint Key Vocabulary: piecewise function, step function <br> - Create a table and a verbal description to represent the graph of piecewise/step functions <br> - Evaluate piecewise functions <br> - Graph step functions <br> Homework: pg. 394 \#2-7 | $\begin{aligned} & \text { MCC9-12.F.IF. } 4 \\ & \text { MCC9-12.F.IF. } 2 \\ & \text { MCC9-12.F.IF. } 7 \mathrm{~b} \\ & \text { MCC9-12.A.CED. } 2 \end{aligned}$ |
|  | Thursday, 3/24 | 12-3: Piecewise Functions | Write and graph piecewise functions. <br> Use piecewise functions to describe real-world situations. | Warm Up: pg. 400 \#4-7 <br> - Graph piecewise functions involving linear functions <br> - Examples on real-world problems incorporating piecewise functions <br> Homework: pg. 394-5 \#9-19 (linear only) | MCC9-12.F.IF. 4 <br> MCC9-12.F.IF. 2 <br> MCC9-12.F.IF.7b <br> MCC9-12.A.CED. 2 |
|  | Friday, 3/25 | 12-3: Piecewise Functions | Write and graph piecewise functions. <br> Use piecewise functions to describe real-world situations. | Warmup: Example of evaluating a piecewise quadratic function <br> - Graph piecewise functions involving quadratic functions <br> Homework: pg. 394-5 \#9-19 (include quadratics) | MCC9-12.F.IF. 4 <br> MCC9-12.F.IF. 2 <br> MCC9-12.F.IF.7b <br> MCC9-12.A.CED. 2 |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 13 | Monday, 3/28 | 12-3: Piecewise Functions | Write and graph piecewise functions. <br> Use piecewise functions to describe real-world situations. | Classwork: Students will work individually to review graphing and evaluating all piecewise functions. | MCC9-12.F.IF. 4 <br> MCC9-12.F.IF. 2 <br> MCC9-12.F.IF.7b <br> MCC9-12.A.CED. 2 |
|  | Tuesday, 3/29 | Quiz on 12.3 | Assessment | Quiz over 12.3 (include evaluating and graphing piecewise functions) | MCC9-12.F.IF. 4 <br> MCC9-12.F.IF. 2 <br> MCC9-12.F.IF.7b <br> MCC9-12.A.CED. 2 |
|  | Wednesday, 3/30 <br> Performance <br> Essay <br> Electives | 13-1: <br> Transforming <br> Polynomial <br> Functions | Transform polynomial functions | Warm Up: Review of Exponential Functions <br> - Review of transformations from linear \& quadratic functions previously learned <br> - Examples on translating polynomial functions <br> - Show how to reflect polynomial functions over the $x$ and y axes <br> - Examples on how to compress and stretch polynomial functions <br> Homework: pg. 407 \#1-12 | MCC9-12.F.BF. 3 |
|  | Thursday, 3/31 | 13-1: <br> Transforming Polynomial Functions | Transform polynomial functions | Warm Up: Exponential Function review <br> - Word problem examples on interpreting transformations in polynomial equations <br> Classwork/Homework: pg. 407-8 \#13-25 | $\begin{aligned} & \text { MCC9-12.F.BF. } 3 \\ & \text { MCC9-12.F.BF. } \end{aligned}$ |
| SPRING BREAK! <br> Friday, 4/1 $\rightarrow$ Friday, 4/8 |  |  |  |  |  |

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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 14 <br> Benchmark <br> Week \#2 | Monday, 4/11 | Review | Review | We will do an activity today to review concepts from 12.3 and 13.1. We will be working on piecewise functions and transforming polynomial functions. Students will complete a worksheet to turn in. |  |
|  | Tuesday, 4/12 | 13-1: <br> Transforming Polynomial Functions | Graph Absolute Value <br> Functions Identify characteristics of absolute value functions and their graphs | Review previous night's homework <br> - Notes on graphing absolute value functions and describing the transformations <br> Homework: 13.1 Extension problems | $\begin{aligned} & \text { MCC9-12.F.BF. } 3 \\ & \text { MCC9-12.F.IF.7b } \end{aligned}$ |
|  | Wednesday, 4/13 SCIENCE | Review |  | We will do an activity today to review end behavior and adding/subtracting rational expressions. Students were weak in these areas, and we need to focus on them prior to the SLO. |  |
|  | Thursday, 4/14 SOCIAL STUDIES | Benchmark Review |  | Benchmark Review - students will work in collaborative pairs/groups to complete review assignment or activity |  |
|  | Friday, 4/15 <br> ELECTIVES | Benchmark Review |  | Benchmark Review - students will work in collaborative pairs/groups to complete review assignment or activity |  |

## COURSE: Advanced Algebra

## TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 15 <br> Benchmark <br> Week \#2 | Monday, 4/18 ENGLISH | Benchmark Review |  | Benchmark Review - students will work in collaborative pairs/groups to complete review assignment or activity |  |
|  | Tuesday, 4/19 MATH | Benchmark (SLO) |  | BENCHMARK \#2 (SLO) |  |
|  | Wednesday, 4/20 | 13-2: <br> Transforming Exponential and Logarithmic Functions |  | Warm Up: Use warm up given on teacher PowerPoint CD Key Vocabulary: exponential function, logarithmic function <br> - Show examples on translating exponential and logarithmic functions using the equation $f(x)=a(b)^{x}$ <br> - Show examples of reflecting, stretching, and compressing exponential and logarithmic functions Classwork/Homework: pg. 418 \#2-14 even, pg. 419 \#16-30 even | MCC9-12.F.BF. 3 |
|  | Thursday, 4/21 | $\text { Ch. } 12 / 13$ <br> Review | Review | Classwork: Students will work together in pairs to review concepts from chapter 12 and 13. | MCC9-12.F.IF. 4 MCC9-12.F.IF. 2 MCC9-12.F.IF. 7 b MCC9-12.A.CED. 2 MCC9-12.F.BF. 3 MCC9-12.F.BF. 1 |
|  | Friday, 4/22 | Ch. 12/13 Test | Assessment | Test Module 13 and 12.3 | MCC9-12.F.IF. 4 MCC9-12.F.IF. 2 MCC9-12.F.IF. 7 b MCC9-12.A.CED. 2 MCC9-12.F.BF. 3 MCC9-12.F.BF. 1 |

## TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | $\begin{gathered} \text { STANDARDS } \\ \text { (CCGPS, GPS, AP) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 16 | Monday, 4/25 | 14-1: Operations With Functions | Add, subtract, multiply and divide functions | Warm Up: Rational function/foil review <br> - Notes on adding and subtracting functions <br> - Notes on multiplying and dividing functions Classwork/Homework: pg. 438 \#2-7 and 15-23 | MCC9-12.F.BF.1b |
|  | Tuesday, 4/26 | 14-1: Operations With Functions | Write and evaluate composite functions | Warm Up: Use warm up on PowerPoint presentation CD Key Vocabulary: composition of functions <br> - Notes on composition of functions <br> - Evaluating and writing composite functions (use a variety of functions) <br> Homework: pg. 438 \#8-13, 24-32 | $\begin{aligned} & \text { MCC9- } \\ & \text { 12.F.BC.1c(+) } \end{aligned}$ |
|  | Wednesday, 4/27 | 14-1: Operations With Functions | Review | Review previous night's homework <br> Classwork: Students will complete a worksheet to practice operations with functions and compositions of functions | MCC9-12.F.BF.1b MCC9- <br> 12.F.BC.1c(+) |
|  | Thursday, 4/28 | 14-2: Functions \& Their Inverses | Determine whether the inverse of a function is a function <br> Write rules for the inverses of functions | Warm Up: Graph an exponential and logarithm with the same base to preview inverse functions <br> - Notes on using the horizontal line test to determine whether the inverse of a relation is a function <br> - Notes on writing rules for inverses of functions <br> Homework: pg. 445-6 \#1-6, 9-17 | $\begin{aligned} & \text { MCC9- } \\ & \text { 12.F.BF.4b(+) } \\ & \text { MCC9-12.F.BF. } 4 \end{aligned}$ |
|  | Friday, 4/29 | 14-2: Functions \& Their Inverses |  | Determine which material from 14-2 needs to be redelivered or earlier material that must be reviewed before approaching test <br> This day may also be used as an additional "buffer" day in case the pacing of the calendar is off |  |

## TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 17 | Monday, 5/2 | Ch. 14 Review | Review | Review of Module 14 - students may work in collaborative pairs/groups to complete review assignment/activity <br> Assign students pg. 450 \#1-19, 22-31 for review | All module 14 standards |
|  | Tuesday, 5/3 | Ch. 14 Test | Assessment | TEST MODULE 14 | All module 14 standards |
|  | Wednesday, 5/4 | 2-1: Significance of Experimental Results | Use simulations and hypothesis testing to compare treatments from a randomized experiment | Warm Up: Use warm up exercises on teacher PowerPoint CD Key Vocabulary: hypothesis testing, null hypothesis <br> - Notes on when hypothesis testing is used and the definition of a null hypothesis <br> - Show students how to use box and whisker plots to support/disprove null hypotheses <br> Classwork/Homework: pg. 39 \& 40 \#3,4,7-9 | MCC9-12.S.IC. 5 |
|  | Thursday, 5/5 | 2-1: Significance of Experimental Results | Use simulations and hypothesis testing to compare treatments from a randomized experiment | Warm Up: pg. 66 \#2-3 <br> Key Vocabulary: z-value, z-test <br> - Notes on definition of a z-value/z-test <br> - Notes on using a z-test to reject or accept a null hypothesis <br> - Use example 2 on pg. 38 <br> Classwork/Homework: pg. 40 \& 41 \#5,6,11-13 | MCC9-12.S.IC. 6 |
|  | Friday, 5/6 | 2-1: Significance of Experimental Results | Use simulations and hypothesis testing to compare treatments from a randomized experiment | Review previous night's homework <br> Classwork: Students will complete a worksheet to review hypothesis testing using both box and whisker plots and ztest | $\begin{aligned} & \text { MCC9-12.S.IC. } 5 \\ & \text { MCC9-12.S.IC. } 6 \end{aligned}$ |
| AP Exams <br> Monday, 5/2 - AP Chem, AP Enviro Science, and AP Psych <br> Tuesday, 5/3-AP Spanish Language <br> Wednesdays, 5/4 - AP English Literature <br> Thursday, 5/5 - AP Calculus <br> Friday, 5/6 - AP US History, AP Studio Art |  |  |  | Milestones <br> To be determined. |  |
|  |  |  |  |  |  |

## TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 18 | Monday, 5/9 | 2-2: Sampling Distributions | Estimate the population means and proportions and develop margins of error from simulations involving random sampling <br> Analyze surveys, experiments, and observational studies to judge the validity of conclusions | Warm Up: Use the warmup given on teacher PowerPoint CD Key Vocabulary: simple random, systematic, stratified, cluster, convenience, self-selected, probability, margin of error <br> - Notes on types of samples and how to classify a sample (use book and PowerPoint examples) <br> - Show chart on probability sampling identifying most accurate vs least accurate types <br> - Show examples of how to evaluate the best type of sampling method to be used in a survey <br> - Notes on how to interpret margin of error <br> Homework: pg. 48-50 \#2-22 | $\begin{aligned} & \text { MCC9-12.S.IC. } 3 \\ & \text { MCC9-12.S.IC. } 4 \end{aligned}$ |
|  | Tuesday, 5/10 | 2-3: Fitting to a Normal Distribution | Use tables to estimate areas normal curves <br> Recognize data sets that are not normal | Warm Up: Review of 2-1 (null hypothesis \& z-test) <br> Key Vocabulary: standard normal value/curve, "bell" curve <br> - Notes on estimating probabilities using a normal curve <br> - Notes on using standard normal values (z-score) <br> - Notes on determining whether data may be normally distributed <br> Homework: pg. 55 \& 56 \#2-19 | MCC9-12.S.ID. 4 |
|  | Wednesday, 5/11 | 2-3: Fitting to a Normal Distribution | Use tables to estimate areas normal curves <br> Recognize data sets that are not normal | Review previous night's homework <br> Classwork: Students will complete a worksheet to practice finding $z$-scores and using them to estimate probabilities | MCC9-12.S.ID. 4 |
|  | Thursday, 5/12 | 2-1 thru 2-3 | Review | Warm Up: pg. 66 \#4-7 <br> Use student workbook to identify problems for review. Have students work in collaborative pairs. | MCC9-12.S.IC. 3 MCC9-12.S.IC. 4 MCC9-12.S.ID. 4 |
|  | Friday, 5/13 | Quiz 2-1 thru 2-3 |  | QUIZ 2-1 thru 2-3 |  |
| AP Exams <br> Monday, May 9 - AP Biology and AP Music Theory |  |  |  | Milestones To be determined. |  |

## COURSE: Advanced Algebra

TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen

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Tuesday, May 10-AP Government
Wednesday, May 11- AP English Language and AP Macroeconomics
Thursday, May 12 - AP World History and AP Statistics
Friday, May 13 - AP Human Geography
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| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 19 | Monday, 5/16 | 2-4: Analyzing Decisions | Explain that probability can be used to help determine if good decisions are made <br> Use probabilities to analyze decisions and strategies | Warm Up: Use warmup given in teacher PowerPoint CD Key Vocabulary: probability, expected value <br> - Notes on definition of probability <br> - Notes on finding expected value <br> - Examples on using expected value in real-world situations <br> Homework: pg. 62-63 \#2-23 | $\begin{aligned} & \text { MCC9- } \\ & \text { 12S.MD.3(+) } \\ & \text { MCC9- } \\ & \text { 12.MD.5b(+) } \end{aligned}$ |
|  | Tuesday, 5/17 | Ch. 2 Review | Review | Review for Module 2 Test. Students will work on review in collaborative pairs or groups | All module 2 standards |
|  | Wednesday, 5/18 | Ch. 2 Test | Assessment | TEST MODULE 2 | All module 2 standards |
|  | Thursday, 5/19 | Exam Review |  | Exam Review-TBD |  |
|  | Friday, 5/20 | Exam Review |  | Exam Review-TBD |  |

Buford High School CURRICULUM CALENDAR 2015-2016

| COURSE: Advanced Algebra | SEMESTER: Spring 2016 |
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| TEACHER(S): Justin Johnson, Matt Jones, Kristina Oldeen |  |


| WEEK | DAY | CONCEPT | OBJECTIVES | INSTRUCTIONAL STRATEGIES | STANDARDS (CCGPS, GPS, AP) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Week 20 | Monday, 5/23 | Senior Exams (Benchmark \#3-5 ${ }^{\text {th }}, 6^{\text {th }}, \& 7^{\text {th }}$ ) |  |  |  |
| Benchmark | Tuesday, 5/24 | Senior Exams (Benchmark \#3-1 ${ }^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}, \& 4^{\text {th }}$ ) / Semester Exams (Benchmark \#3 $\mathbf{7}^{\text {th }}$ ) |  |  |  |
| Week \#3 | Wednesday, 5/25 | Semester Exams (Benchmark \#3-1 ${ }^{\text {st }} \& 2^{\text {nd }}$ ) |  |  |  |
|  | Thursday, 5/26 | Semester Exams (Benchmark \#3-3 ${ }^{\text {rd }} \& 4^{\text {th }}$ ) |  |  |  |
|  | Friday, 5/27 | Semester Exams (Benchmark \#3-5 ${ }^{\text {th }} \boldsymbol{\&} \mathbf{6}^{\text {th }}$ ) |  |  |  |

