**Edwards & Lang Syllabus ☺ 2017-2018 ☺ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ☺Block\_\_\_\_\_\_**

**A2T Unit 4 - Rational Functions & Relations**

**HOMEWORK POLICY:** *In order to receive a 3, you must do the following (.5 off for each objective not completed):*

1. Write your name and date along with the assignment in the top margin. All of your work must be done in pencil or a black pen.
2. IXL work must be done on Loose-leaf for **at least** an 80% score. If you have to do any graphing, it must be done on graph paper.
3. Every problem must be attempted to the best of your ability. Use the internet (Khan Academy) if you have problems understanding.
4. All algebraic work must be shown, and it should be neat and organized (hint: circle or underline your answers).
5. All worksheets should be checked and fully corrected using a red pen before coming to class. Go to **cindyedwards.weebly.com.**
6. *Finally, assess your understanding by filling in the evaluation under the assignment.* ***BE PREPARED FOR DAILY QUIZZES!***

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| **DATE** | **DAILY LEARNING TARGETS & OBJECTIVES** | | **INDEPENDENT PRACTICE (HOMEWORK)** | | | **GRADE** |
| Thu/Fri,  Dec. 7/8 | Test on Unit 3 | | Quizziz on Simplifying Rational Expressions | | |  |
| Mon/Tue,  Dec. 11/12  ***Day 01*** | Multiplying & Dividing Rational Expressions  ***THE IXLs are due before the Break!*** | | IXL Alg. 2: N.4 & N.5 ***= 2 10 point Quiz grades/not a HW grade*** | | |  |
| Wed/Thu,  Dec. 13/14  ***Day 02*** | Adding & Subtracting Rational Expressions  ***Dec. 13: CAV CONNECTION & ONE LUNCH TRIAL*** | | IXL ALGEBRA 2: N.6 ***= a 10 point quiz grade/not a HW grade***  Need help? Go to Khan Academy: Rational Functions >  Simplifying/Multiplying and Dividing/Adding and Subtracting | | |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | | | |
| Fri/Mon,  Dec. 15/18  ***Day 03*** | Graphing Reciprocal & Rational Functions  ***Dec. 15: Progress Reports Issued*** | | Finish all Worksheets given in class  IXL: N.1 ***= a 10 point quiz grade/not a HW grade*** | | |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | | | |
| Tue/Wed,  Dec. 19/20  ***Day 04*** | Investigating Oblique Slant Asymptotes & Holes  ***Dec. 20: Adjusted Dismissal*** | | Finish the Investigating Worksheet  Need help? Got to Khan Academy: Rational Functions > Graphs/End Behavior/Discontinuities | | |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | | | |
| Baby_Jesus_with_Yellow_Star[1]hanukkah[1]**December 21 to January 1: Winter Holiday = NO SCHOOL!**    *1st day back: Tuesday, January 2 (A day)* | | | | | | |
| Tue/Wed,  Jan. 2/3  ***Day 05*** | Variation Functions | | | IXL: Q.3, Q.4, & Q.7  KA: Rational Functions > Direct and Inverse Variation | |  |
| L. Target? | Emoji | What Questions do you still have? | | What were your AHA Moments? | | |
| Thu/Fri,  Jan. 4/5  ***Day 06*** | Solving Rational Equations | | | Finish the Notes  IXL: N.7 ***= a 10 point quiz grade/not a HW grade***  KA: Rational Functions > Solving Rational Equations | |  |
| L. Target? | Emoji | What Questions do you still have? | | What were your AHA Moments? | | |
| Mon/Tue,  Jan. 8/9  ***Day 07*** | Unit 4 Review | | | Unit 4 Test Review Worksheet |  | |
| L. Target? | Emoji | What Questions do you still have? | | What were your AHA Moments? | | |
| Wed/Thu,  Jan. 10/11  ***Day 08*** | Test on Unit 4 | | | **TOTAL POINTS:** | |  |
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**LEARNING TARGETS:**

**Target 1:** I CAN graph a rational function, identify its transformations, components (domain, range, zeros, intercepts), and

its restrictions (vertical, horizontal, and oblique asymptotes, and points of discontinuity).

**Target 2:** I CAN model and solve real world problems by using direct, inverse, and joint variation or a combination of direct

 and inverse variation.

**Target 3:** I CAN add, subtract, multiply, divide, and simplify rational expressions.

**Target 4:** I CAN solve equations containing rational algebraic expressions algebraically and check their solutions graphically.

**UNIT 4 ENDURING UNDERSTANDINGS:**

1. Rational expressions present unique limitations on practical applications.
2. Practical problems can be modeled and solved by using direct, inverse and joint variation.

**UNIT 4 ESSENTIAL QUESTIONS:**

1. How does the graph illustrate the unique limitations of a rational function?
2. How do you determine if a function is a model of direct or inverse variation?
3. Why are there restrictions on rational expressions, equations, and functions?
4. What real life situations model direct, inverse and joint variation?

**SOL Objectives (2009):**

**AII/T.1** The student, given rational, radical, or polynomial expressions, will

a) add, subtract, multiply, divide, and simplify rational algebraic expressions;

**AII/T.4** The student will solve, algebraically and graphically,

c) equations containing rational algebraic expressions; and

Graphing calculators will be used for solving and for confirming the algebraic solutions.

**AII/T.6** The student will recognize the general shape of function (absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic) families and will convert between graphic and symbolic forms of functions. A transformational approach to graphing will be employed. Graphing calculators will be used as a tool to investigate the shapes and behaviors of these functions.

**AII/T.7** The student will investigate and analyze functions algebraically and graphically. Key concepts include

a) domain and range, including limited and discontinuous domains and ranges;

b) zeros;

e) asymptotes;

Graphing calculators will be used as a tool to assist in the investigation of functions.

**AII/T.10** The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.

**PREREQUISITE LEARNING TARGETS:**

1. I CAN factor any polynomial that is not prime.
2. I CAN add, subtract, multiply, and divide fractions.
3. I CAN find a common denominator
4. I CAN solve any linear or quadratic equation.
5. I CAN never divide by zero!
6. I CAN identify the reciprocal function family member and state its domain and range.
7. I CAN use polynomial long division.