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

**A2T Unit 5 – Inverse, Radical Functions & Relations**

**HOMEWORK POLICY:** *In order to receive a 3, you must follow the procedure listed on all previous syllabi!*

***This unit requires practice and more practice! In order to guar***  ***antee your success, we suggest that you do the suggested IXL assignments in the areas where YOU need more practice. Each IXL you complete will count as a 10 point quiz grade. YOU are in charge of your grades! The homework grade is a reflection of the assigned worksheets, which we feel are important for your overall understanding.***

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| **DATE** | **DAILY LEARNING TARGETS & OBJECTIVES** | | **INDEPENDENT PRACTICE (HOMEWORK)** | **GRADE** |
| Thu/Fri,  Jan. 25/26  ***Day 00*** | **Test on Unit 4**  Rational Functions & Relations | | Introduction to Composite Functions Worksheet  ***Submit your Desmos Masterpiece Phase 3!*** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Monday,  January 29  ***Day 01*** | ***C DAY*** Operations with Functions  **Introduce PBL Task: “Coupon or discount”**  **– IB Rubric B & D: Due on or before 2/21** | | Functions I & II  Graphing Inverse Functions & Relations WS  (due Feb. 1/2) **IXL 0.1 to 0.5** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Tue/Wed,  Jan. 30/31  ***Day 02*** | Graphing Square Root Functions  Rational Exponents | | Day 02 Graphing Worksheet – No calculator! (IXL L.12)  **Quizziz posted on Google Classroom**  **M.1 through M.6** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Thu/Fri,  Feb. 1/2  ***Day 03*** | Inverse Functions and Relations (Walkabout)  ***Assign: Valentine’s Day Card Task – Minor Assessment*** | | Day 03 Inverse Functions and Relations Worksheet  ***Make a Power Card!***  **IXL 0.6 to 0.9** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Mon/Tue,  Feb. 5/6  ***Day 04*** | nth Roots | | Day 04 Radicals & Rational Exponents Practice  **IXL L.1, L.2, L.4 through L.6** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Wed/Thu,  Feb. 7/8  ***Day 05*** | Operations with Radical Expressions | | Day 05 nth Roots & Operations w/ Radicals  **IXL L.7 through L.11** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Fri/Mon,  Feb. 9/12  ***Day 06*** | ***CITYWIDE ALGEBRA 2 MID-ASSESSMENT*** | | Review Quizziz  Take your personality test & come in with the results!  *https://www.16personalities.com/free-personality-test* |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Tue/Wed,  Feb. 13/14  ***Day 07*** | Solving Radical Equations  **Unlocking Your Full Potential Activity** | | Day 07 Solving Radical Equations Worksheet  **IXL L.13** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Thu/Fri,  Feb. 15/16  ***Day 08*** | Review Unit 5/**Valentine’s Day Speed Dating** | | Day 08 Unit 5 Test Review Worksheet |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |
| Mon/Tue/Wed,  Feb. 19/20/21  ***Day 09*** | **Test on Unit 5**  Mon., Feb. 19: C Day = NON CALCULATOR PORTION  Tue/Wed, Feb. 19/20: CALCULATOR PORTION | | **TOTAL POINTS** |  |
| L. Target? | Emoji | What Questions do you still have? | What were your AHA Moments? | |



**GUIDING QUESTION/GLOBAL CONTEXT: IDENTITIES & RELATIONSHIPS**

Does every action have an inverse action?

**GUIDING IDEA:**

“The essence of mathematics is not to make simple things complicated,

but to make complicated things simple.”

**UNIT 5 LEARNING TARGETS:**

**Target 1:** I CAN apply operations with functions, evaluate compositions of functions, verify inverses using composition of

functions, and apply composition of functions to real world applications.

**Target 2:** I CAN graph a function, including square root functions, and its inverse and identify the domain and range of each; I can find the equation of the inverse of a function.

**Target 3:** I CAN simplify expressions containing rational exponents and radicals of a variety of indices.

**Target 4:** I CAN solve equations containing rational exponents or radicals.

**UNIT 5 ENDURING UNDERSTANDINGS/BIG IDEAS**

1. The domain of the inverse is the range of its original relation!
2. An exponent is the number of times you must multiply its base by itself!

**UNIT 5 ESSENTIAL QUESTIONS:**

1. What is an inverse? What is an identity? How are they related? Why are these definitions so important in THIS unit?
2. Explain why a person would perform a composition of functions. Include a real-world example that you could solve by using a composition of functions.

**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;

b) add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;

c) write radical expressions as expressions containing rational exponents and vice versa

**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:

1. domain and range, including limited and discontinuous domains and ranges;
2. zeros;
3. x- and y-intercepts

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

d) equations containing radical expressions.

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

**PREREQUISITE TARGETS**

* I CAN simplify a radical and rationalize a denominator
* I CAN graph and translate any of the 10 function family members
* I CAN solve a formula for a variable
* I CAN define and apply the definitions of a relation, function, input, output, domain, range, interval notation, inverse, identity, THE IDENTITY FUNCTION, and use function notation when appropriate.