## Mrs. Edwards ♥ A/B & B/A Day Schedule ♥ 2016-2017 ♥ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_

**Algebra 2 & Trigonometry Unit 6 Syllabus**

***HOW TO GRADE HOMEWORK: TAKE OFF ½ FOR EACH MISSED REQUIREMENT Did you....***

1. *Write your name and date along with the assignment in the top margin? All work must be done in pencil.*
2. *Copy all problems and pictures.* **All graphing problems must be done on graph paper.**
3. *Attempt every problem to the best of your ability using your book and notes for assistance?*
4. *Show ALL work making it neat and organized? (Hint: circle or underline your answers).*
5. *Check & correct ALL odd book problems using a non-black pen? Answers are in the back of the book!*
6. *Fully check and correct all worksheets using a non-black pen at cindyedwards.weebly.com?*

**Unit 6: Exponential & Logarithmic Functions & Relations -** *Write the grade (0-3) next to each assignment*

“The successful person is the individual who forms the habit of doing what the failing person doesn’t like to do.” –Donald Riggs

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| **DATE** | **TEXT** | **OBJECTIVES** | **HOMEWORK** | **GRADE** | **IXL** |
| **Fri/Mon,**  **Feb. 17/20**  **B/A** |  | **Test on Unit 5** | 8-2 Solving Exponential Equations WS  Investigating a Movie Contract |  | S.4 |
| **Tue/Wed,**  **Feb. 21/22**  **A/B**  *DAY 1* | 8-1 | Graphing Exponential Functions    Exponential Growth and Decay | 8-1 Graphing Exponential Functions WS  8-1 Applications WS (***Due by Feb 27/28)***  ***Must be completely corrected in pen!*** |  | S.1  S.3 |
| **Thu/Fri,**  **Feb. 23/24**  **A/B**  *DAY 2* | 8-2 | Solving Exponential Equations  Applications of Exponential Functions | p. 488-89 #1-4, 9-15, 32-37 all  Finish the 8-1 Applications Worksheet |  | S.12  S.13  S.14 |
| **Mon/Tue,**  **Feb. 27/28**  **A/B**  *DAY 3* | 8-3 | Logarithms and Graphing Logarithmic Functions | p. 496-97 #13-41 all, 46, 50, 60, & 65 |  | S.1  R.1 & R.2  R.3 & R.4 |
| **Wed/Thu,**  **March 1/2**  **A/B**  *DAY 4* | 8-4 | Solving Logarithmic Equations | p. 504-06 #1-3, 8-19, 36, & 39 all  Solving Mixed EQ WS (***Due by Mar. 7/8)***  ***Must be completely corrected in pen!*** |  | S.7 & S.8  R.6 & R.7  R.8 & R.9 |
| **Fri/Mon,**  **March 3/6**  **A/B**  *DAY 5* | 8-5 | Properties of Logarithms  ***March 3: CAV CONNECTION*** | 8-5 Properties of Logarithms Worksheet |  | S.8  R.10  R.11  R.12 |
| **Tue/Wed,**  **March 7/8**  **A/B**  *DAY 6* | 8-6  8-7 | Common Logarithms  Base *e* and Natural Logarithms  ***Progress Reports Issued on March 7*** | p. 520-21 #(23-27, 33-37, & 41-45) odd,  67, 68, & 71 (12 problems)  p. 529-30 #(21-37, 47-55) odd (14 problems) |  | R.5  S.5  S.6 |
| **Thu/Fri,**  **March 9/10**  **B/A again!**  *DAY 7* | 8-8 | Using Exponential & Logarithmic Functions | 8-8 Applications of Exponential and Logarithmic Functions Worksheet |  | S.12  S.14 |
| **Mon/Tue,**  **March 13/14**  **B/A**  *Day 8* |  | Unit 6 Review  ***March 14 is π Day!*** | Unit 6 Test Review Worksheet |  |  |
| **Wed/Thu,**  **March 15/16**  **B/A**  *Day 9* |  | **Test on Unit 6**  **March 17: HAPPY ST. PATRICKS DAY!**  *Wear Green!* | **TOTAL POINTS:** |  |  |
| **Fri/Mon,**  **March 17/20**  **B/A**  *Day 10* | 2-6 | Special Functions: Piece-wise &    Greatest Integer Functions | Special Functions Worksheet (***Due by Mar. 21/22)***  *Understanding these special functions is necessary, but does not relate to the unit we just studied. Therefore, it will count as a classwork grade of 5 points.* | | |

**Unit 6: Exponential and Logarithmic Functions**

**UNIT 6 LEARNING TARGETS:**

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| **Target A** | I can graph exponential and logarithmic functions, and I can identify the type of function and the transformation and components of its graph. |
| **Target B** | I can convert equations from exponential to logarithmic form and vice-versa, evaluate logarithmic expressions, use the properties of logarithms to expand and condense logarithmic expressions, and explain the restrictions on the base of an exponential or logarithmic function. |
| **Target C** | I can identify the inverse relationship between exponential and logarithmic functions, and find the inverse of exponential and logarithmic functions. |
| **Target D** | I can solve exponential and logarithmic equations with and without a calculator, as appropriate, and I can identify extraneous solutions and the reason(s) they occur. |
| **Target E** | I can solve real-life problems that require the use of exponential and logarithmic models. |

**UNIT 6 ENDURING UNDERSTANDINGS:**

1. Exponential functions are used to model rapid growth or decay.
2. Logarithmic function is the inverse of exponential function.
3. The changes in the parameters of the exponential and logarithmic functions affect the transformation of its graph.
4. The properties of logarithms are related to the laws of exponents.
5. The rate of continuous growth or decay can be determined using logarithms.

**UNIT 6 ESSENTIAL QUESTIONS:**

1. How are real –world situations involving quantities that grow or decline rapidly modeled mathematically?
2. What are the defining characteristics of exponential and logarithmic functions?
3. How do changes in the parameters of exponential and logarithmic functions affect the transformation of its parent graph?
4. How are the properties of exponents used in simplifying expressions and solving equations?
5. How are rates of continuous growth or decay determined?

**SOL Objectives (2009):**

AII/T.6 The student will recognize the general shape of exponential and logarithmic functions 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 domains and ranges;
2. zeros;
3. x and y intercepts;
4. intervals in which a function is increasing or decreasing;
5. asymptotes,
6. end behavior;
7. inverse of a function.

AII/T.9 The student will collect and analyze data, determine the equation of the curves of best fit, make predictions and solve real world problems using mathematical models. Mathematical models will include polynomial, exponential and logarithmic functions.