*Grade 9 - 11*
Distance Learning Module 7: Week of:  May 18th - May 22nd

# Algebra 2 (Level 2) - *Modified from Unit 6 - Exponential and Log functions*

**Targeted Goals from Stage 1: Desired Results**

**Exponential Functions:** Manipulate equations and expressions to create order and establish relationships.  Draw conclusions about graphs and equations. Make sense of a problem.

**Content Knowledge:**  The relationship between the laws of exponents and how they relate to the laws of logs.  The difference between growth and decay.

**Vocabulary:** exponential growth/decay, e, continuous, logarithm, common and natural logarithms, half-life

**Skills:**
- 1. Changing an equation from log form to exponential form and back.
- 2. Using the laws of logs
- 3. Expanding and condense log expressions in order to solve problems
- 4. Solving problems related to growth and decay.
- 5. Using change of base formula
- 6. Solving problems involving compound interest
- 7. Identifying functions as models of exponential growth, exponential decay.

**Expectation:**

| Description of Task (s): | Resources and Materials: | Daily Checks (Return to Google Classroom or snapshots from a cell phone) |
|---|---|---|
| Monday:  simplifying rational exponents | Khan Academy rational exponents, Slides chapter 6 #'s 5-8 | Review worksheet.  Complete and submit a picture |

| Description of Task (s): | Resources and Materials: | Daily Checks (Return to Google Classroom or snapshots from a cell phone) |
|---|---|---|
| Tuesday: converting between rational exponents and radicals | Slides chapter 6 #'s 5-8 KA rewriting roots as rational exponents | KA practice: unit fractions<br><br>KA practice fractional exponents |
| Wednesday:writing roots as rational exponents | Slides chapter 6 #'s 5-8 | KA practice rational exponents challenge |
| Thursday: | KA properties of rational exponents Slides chapter 6 #'s 9-18 | WS properties of rational exponents.  #s 1-18 |
| Friday: | Slides chapter 6 #'s 9-18 | WS properties of rational exponents review |

**Week criteria for success** (attach student checklists or rubrics):

Students will be able to:

1. Students will understand exponential functions and their graphs. Students will be introduced to logarithms as the inverse of exponential functions. They will use the properties of logarithms to solve both exponential and logarithmic equations. Real world application problems will be introduced.

**Supportive resources and tutorials for the week** (plans for re-teaching):

1. Khan Academy videos
2. Slides chapter 6
3. Office hours and live sessions