

## 9/19 Monday

### Review Chapter 1 Test

### Unit 1 Expressions Part 1

- Write algebraic expressions to represent verbal phrases
- Write verbal phrases to represent algebraic expressions
- Use substitution and the order of operations to evaluate expressions
- Use properties to simplify expressions
- Estimate and evaluate radical expressions
- Calculate sums, differences, products and quotients of real numbers
- Use the distributive property to simplify expressions and factor the GCF of an expression

**Students will understand that expressions are mathematical phrases, composed of variables and symbols, which are used to represent verbal or physical quantities and that expressions can only be simplified and/or evaluated.**



## Tuesday 9/20 Multiplying Powers With the Same Base Lesson 7-3, 7-4 More Multiplication Properties of Exponents

**Essential Question:** How can you use the properties of exponents to multiply powers?

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**Common Core Standard(s) addressed:**

N.A.2.a Apply and justify the basic properties of exponents using numerals, expressions, and algebraic equations.

MA.N.2.2 Represent algebraic expressions with exponents in their simplest forms.

MA.N.2.1 Represent numerical expressions with exponents in their simplest forms

**Activating Strategies: (Learners Mentally Active): 10 minutes**

- View Solve It video
- Review Scientific Notation

**Vocabulary Preview/Instruction:** Exponent, Power Base

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***Instruction: 45 minutes***

- *Lead the students through the Solve It! Problem at the beginning of the lesson:*
- *Problem 1: Multiplying Powers*  
*Problem 2: Multiplying Powers in Algebraic Expressions*  
*Problem 3: Multiplying Numbers in Scientific Notation*  
*Problem 4: Multiplying Numbers in Scientific*

Problem 1: Simplifying a Power Raised to a Power

Problem 2: Simplifying an Expression With Powers

Problem 3: Simplifying a Product Raised to a Power

Problem 4: Simplifying Products With Multiple Variables

***AP#1: How can you summarize multiplying powers with the same base? [Answers may vary. Sample: Multiply coefficients and add exponents on factors with the same base.]***

***AP#2: What is the difference between a "power of a power" and "product of a power"? [The power expression is the base of the exponent in a "power of a power". The factors of an expression raised to a single exponent are each a base of the exponent in a "product of a power".]***



**Independent Practice (Differentiation): 15 minutes**

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Problems 8-24 even, 10-28 even

These strategies are used to meet the needs of all learners for various grade levels:

**Varying academic levels:** uses mixed-ability groups to allow students to learn from one another, uses small- and whole-group discussions to ensure all students participate.

**Visual learners:** Students will begin to make a graphic organizer of operations of powers

**Auditory learners:** Guided questions and discussion will help students understand goals.

**Homework Practice form G lessons 7-3 & 7-4**

**Summarizing Strategies: 10 minutes**

- Students will write summary of today's lesson answering the assessment prompts in their notebook.

\*Student Technology Use:

Algebra I Textbook TE, TI -84 Calculator

**Mathforward/TINavigator**

Activity Center

**Wednesday, 9/21 Problem Solving and activities for lessons 7-3 & 7-4**

**Activating Strategies: (Learners Mentally Active): 10 minutes**

- Students will check homework and collaborate with classmates regarding correct/incorrect solutions.
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**Vocabulary Preview/Instruction: Same as Tuesday, 9/20.**

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## 84 - Rules of Exponents

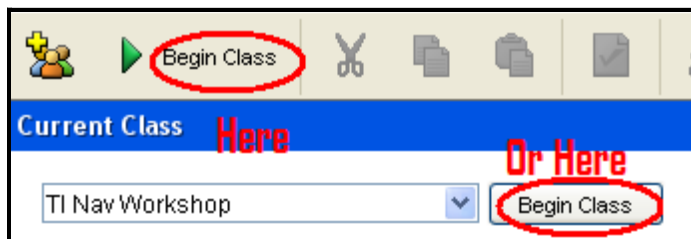
<b>Lesson Focus</b>	The student uses patterns to generate the laws of exponents.
<b>Materials</b>	TI-Navigator™, TI-83 Plus/TI-84 Plus, Activity Sheets
<b>Grouping</b>	Each student should have their own calculator and be logged in. This activity will support a number of collaboration strategies. Students should be allowed to talk ideas over with their peers. This can be done in any configuration from formal pairs to just allowing students to share ideas with the people around them as they desire.
<b>Prerequisite Knowledge and Skills</b>	The activities Intro to Function 1 and 2 should be done prior to this lesson. Equivalence, exponents
<b>Overview of the Lesson</b>	In this lesson, students will generate a variety of functions which are equal to a given function (for example $x^{12}$ ).  Using the list of equivalent functions generated by the class, students will look for patterns in how different operations on base numbers with exponents behave. Students will generate a list of rules to use when working with exponents.
<b>Time</b>	Suggested time for set-up (before class): 5- 10 minutes Suggested time for Introduction: 30 – 40 minutes Suggested time for Activity 1: 50 - 60 minutes


### Procedure:

#### Set-Up: Before class begins

1. Launch TI-Navigator

Click the Begin Class button



2. Click  the button to launch the Activity Center.

- *Problems, Lesson 7-3*

**AP#1:** Teacher will poll students; via TI Navigator, to check for rule s generation

Students respond via Navigator

### **Independent Practice (Differentiation): 15 minutes**

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Students will complete the Activity Center Activity (Rules for Exponents)

These strategies are used to meet the needs of all learners for various grade levels:

**Varying academic levels:** uses mixed-ability groups to allow students to learn from one another, uses small- and whole-group discussions to ensure all students participate.

**Visual learners:** Students will make flash cards that have mathematical operations (+, -, x, ÷) on one side, verbal expression on the other side.

**Auditory learners:** Guided questions and discussion will help students understand goals.

**Kinesthetic learners:** Students will make use of the P-E-M-D-A-S Map Text Assignment Guide:

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### **Summarizing Strategies: 10 minutes**

- Students will write summary of today's lesson in their Cornell notes.

\*Student Technology Use: TI Navigator Activity Center

**Math forward/TINavigator**

## **Thursday, 9/22 Lesson 7-5 Dividing Powers with the same base**

- To divide powers with the same base
- To raise a quotient to a power

N.A.2.a Apply and justify the basic properties of exponents using numerals, expressions, and algebraic equations.

MA.N.2.2 Represent algebraic expressions with exponents in their simplest forms.

MA.N.2.1 Represent numerical expressions with exponents in their simplest forms

Problem 1: Dividing Algebraic Expressions

Problem 2: Dividing Numbers in Scientific Notation

Problem 3: Raising a Quotient to a Power

Problem 4: Simplifying an Exponential Expression



AP #1

If you could not remember the property for the power of a quotient, how could you find the simplified form? [Use repeated multiplication to rewrite the expression, and then simplify.]

Independent Practice:  
8-26 even

Guided Practice: Review for lessons 7-3 – 7-5 Jeopardy Game



Homework: Lesson 7-5 Practice form G and study for quiz on Friday

**Friday, 9/23**

Assessments on Lessons 7-3 – 7-5:

Notebook Check, Lesson Quizzes 7-3 – 7-5 (Online Textbook) Computer Lab

