

## Unit 3: Exponents / Properties of Exponents

### Algebra Honors

6 Class Meetings

*Revised March 2026*

#### Essential Questions

- How can simplification of a mathematical process make solving problems easier?

#### Enduring Understandings with Unit Goals

**EU 1:** Simplifying mathematical expressions containing exponents makes solving problems easier.

- Simplify expressions involving exponents by using the properties of exponents.

#### Standards

##### Common Core State Standards/College and Career Readiness Anchor Standards :

- **HS.N.RN.A.2:** Rewrite expressions involving radicals and rational exponents using the properties of exponents.

#### ISAAC Vision of the Graduate Competencies

**Competency 1:** Write effectively for a variety of purposes.

**Competency 2:** Speak to diverse audiences in an accountable manner.

**Competency 3:** Develop the behaviors needed to interact and contribute with others on a team.

**Competency 4:** Analyze and solve problems independently and collaboratively.

**Competency 5:** Be responsible, creative, and empathetic members of the community.

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#### Unit Content Overview

**1. Multiplying Powers With the Same Base**

- Multiply Powers
- Multiply Powers in Algebraic Expressions

**2. More Multiplication Properties of Exponents**

- Simplify a Power Raised to a Power
- Simplify an Expression with Powers
- Simplify a Product Raised to a Power

**3. Division Properties of Exponents**

- Divide Powers with the Same Base
- Raise a Quotient to a Power

**4. Zero and Negative Exponents**

- Apply Properties of Zero and Negative Exponents
- Evaluate an Exponential Expression Using All of the Properties of Exponents

**Interdisciplinary Connection:**

- Language Arts- Accountable Talk, Word Problems, TWPS, and CER's

#### Daily Learning Objectives with *TWPS*

**Students will be able to...**

- Apply the Product Property when multiplying exponential expressions
  - *TWPS – What is the error in the student's work?*
- Apply the Power Property when multiplying exponential expressions
  - *TWPS - Which of the three statements is a lie?*
- Apply the Quotient Property when dividing exponential expressions
  - *TWPS – What are the most likely answers the student would have chosen? Explain.*
- Apply the Zero and Negative Power Properties
  - *TWPS - Which of the exponential expressions does not belong with the rest?*

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#### Instructional Strategies/Differentiated Instruction

- Whole-group instruction
- Creating authentic connections for students
- Rephrasing and restatement of information and concepts
- Guided notes
- Student-led instruction
- Small group instruction
- Math Stations (rotations)
- Independent problem-solving
- Collaborative problem-solving
- Cross-curricular problem solving (independent and collaborative)
- Accountable Talk
- Cumulative Homework

#### EL DIFFERENTIATED INSTRUCTION:

- Word Walls with visuals
- TWPS (Think, Write, Pair, Share)
- Pre-reading strategies
- Culturally responsive teaching
- Explicit Modeling
- Key Vocabulary
- Graphic Organizers
- Non-verbal Assessments
- Strategic Grouping

#### Assessments

#### FORMATIVE ASSESSMENTS:

- Accountable Talk Discussions
- Daily Think-Write-Pair Share (TWPS)
- Daily Do Now: Spiral Review
- Claim-Evidence-Reasoning (CER's)
- Whiteboards
- Mid-class check-ins
- Exit Slips
- Student-led instruction
- Cumulative Homework

#### SUMMATIVE ASSESSMENTS:

- Pear Assessment Unit 3 Test (EU 1)

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| <b>Unit Resources</b>                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Worksheets</li><li>• Calculator</li><li>• Laptops</li><li>• SBAC Prep Online</li><li>• Pear Assessment</li><li>• Khan Academy</li><li>• Prodigy</li><li>• Quizizz</li><li>• Individual Whiteboards</li><li>• Jeopardy Lab</li><li>• Task Cards</li><li>• Online Resources: Math Stations</li></ul> Partner/Group Games |