

Foundations of Math 10 LG 2

EXPONENTS II

INTRODUCTION:

Exponents have been used to help solve problems since the time of the Babylonians about 4000 years ago....check out pages 150 & 151.

LEARNING GUIDE EXPECTATIONS:


On the completion of this learning guide you will be able to:

- 1) apply the exponent laws to simplify expressions with rational exponents.
- 2) represent and simplify irrational numbers.
- 3) convert between powers with rational exponents and radicals.
- 4) convert between mixed radicals and entire radicals.

EVALUATION:

You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Please refer to your Mathematics 10 Foundations Marks Record Sheet to determine the assessment.

RESOURCES NEEDED:

 Mathematics 10 Text

LEARNING ACTIVITIES:

 **Expectation #1: Apply the exponent laws to simplify expressions with rational exponents.**



1. [Watch and take notes on instructional video on Rational Exponents.](#)



2. Read Link the Ideas on page 175.
3. Work through Examples 1, 2, and 3 on pages 175 to 178.
4. Read Key Ideas on page 179.
5. Complete page 180-183 #1, 2, 3, 4, 5, 6, 7, 8, 14, 19.
6. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).



Expectation #2: Represent and simplify irrational numbers.

Expectation #3: Convert between powers with rational exponents and radicals.

Expectation #4: Convert between mixed radicals and entire radicals.



1. [Watch and take notes on instructional video on Irrational Numbers.](#)



2. [Watch and take notes on instructional video on Converting Powers to Radicals and Radicals to Powers.](#)



3. [Watch and take notes on instructional video on Converting Between Mixed Radicals and Entire Radicals.](#)



4. [Watch and take notes on instructional video on Ordering Radical Numbers.](#)



5. Read Link the Ideas on page 186.



6. In your Math Journal, define radical, radicand and index. Use an example to illustrate.



7. Work through Example 1 on page 187 and complete #1 on page 192.

8. Work through Example 2 on page 188 and complete #2 on page 192.

9. Work through Example 3 on page 188 and complete #4 on page 192.

10. Work through Example 4 on page 189 and complete #6 on page 193.

11. Work through Examples 5 & 6 on pages 190 and 191 and complete #8 on page 193.

12. Read Key Ideas on pages 191 and 192.



13. In your Math Journal:

a) describe how to convert radicals to powers. Illustrate with an example.

b) describe how to convert an entire radical to a mixed radical and a mixed radical to an entire radical. Give an example for each.

c) describe how to order radicals without using a calculator.



14. Complete page 192-194 #3, 5, 7, 10, 11, 12, 15.

13. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).

REVIEW AND CHALLENGE



1. Complete Chapter 4 Review pages 197-198 #11-22.

PRACTICE QUIZZES

[Practice quiz #1 \(only do questions #7-16\)](#)

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)