

Math 10 Pre-Calculus 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 Pre-Calc 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 #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)