

# Math 10 Pre-Calc LG 1

## EXPONENTS I

### 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) determine the square root and cube root of perfect squares and cubes.
- 2) apply the exponent laws to simplify expressions with integral exponents.

### 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
-  Square dot paper

### LEARNING ACTIVITIES:

#### **Expectation #1: Determine the square root and cube root of perfect squares and cubes.**



1. [Watch and take notes on instructional video on perfect squares and square roots.](#)



2. [Watch and take notes on instructional video on perfect cubes and cube roots.](#)



3. Read page 152. Complete the Investigate Square Roots and Cube Roots question #1, 3a,c.
4. Read Link the Ideas on page 153 & 154.
5. Work through Example 1 on pages 154 & 155.
6. Complete page 158 #5.
7. Work through Example 2 on page 156.
8. Read the Key Ideas on page 157.



9. In your Math Journal, define *perfect cube* and *cube root*. Give an example of each. Describe how you would determine what the square root or the cube root of a number is.



10. Complete questions #1, 2, 3, 4, 6, 8, 9, 10, 11, 17 on pages 158-160.
11. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).



**Expectation #2: Apply the exponent laws to simplify expressions with integral exponents.**



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



2. Complete the Investigate Negative Exponents on page 163 questions 1-5.
3. Read Link the Ideas on page 164 and work through Example 1.
4. Complete question #4a,b,c on page 169.
5. Work through Examples 2 and 3 on pages 166 and 167.
6. Complete question #4d-i on page 169.
7. Read Key Ideas on page 168.



8. In your Math Journal, make a list of the following exponent laws: Negative exponent, product of powers, quotient of powers, power of a power, power of a product, power of a quotient and zero exponent. Use an example of your own to illustrate each law.



9. Complete #2, 3, 5, 6, 7, 10, 13, 15, 18 on pages 169-172.
10. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).

## REVIEW AND CHALLENGE



1. Complete Chapter 4 Review pages 196-197 #1 – 10.

## PRACTICE QUIZZES

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)