Math 11 Pre-Calculus LG 10
RATIONAL EXPRESSIONS

INTRODUCTION:

Rational expressions are used in medicine, lighting, economics, space travel, engineering, acoustics and many other fields. Check out pages 308-309.

LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:
1) Simplify rational expressions.
2) Multiply and divide rational expressions.
3) Add and subtract rational expressions.

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 11 Pre-Calc Marks Record Sheet to determine the assessment.

RESOURCES NEEDED:

Math 11 Pre-Calc Text

THSS Math 11 Pre-Calc Learning Guides.

LEARNING ACTIVITIES:

Expectation #1: Simplify rational expressions.

1. Watch and take notes on instructional video on Non-permissible Values.

2. Watch and take notes on instructional video on Simplifying Rational Expressions.

3. In the textbook, complete *Investigate Rational Expressions* #2, 3, 5, 8 on page 311.

4. In the textbook, read Link the Ideas on page 312.

5. In your journal, explain how to find the non-permissible values of a rational expression.

6. In the textbook, work through Example 1 on page 312. Now complete *Your Turn* on page 312.
7. Read page 313.
8. Work through Examples 2 and 3 on page 314-316. Now complete *Your Turn* on page 315 and 316.
9. Read *Key Ideas* on page 317.

10. In your math journal, explain and give an example of how to simplify radicals.

11. In the textbook, complete pages 317-320 #1, 3, 4, 6-8, 11, 13, 15, 19, 23, 25

Expectation #2: Multiply and divide rational expressions.

1. [Watch and take notes on instructional video on Multiplying and Dividing Rational Expressions.](#)

2. In the textbook, read *Investigate Multiplying and Dividing Rational Expressions* #1-5, 7-9 on pages 322-323.
3. Read Link the Ideas on page 323.
4. Work through Example 1 on page 324. Now complete Your Turn on page 324.
5. Read page 325 and work through Example 2 and 3 on page 325-326. Complete Your Turn on page 325 and page 326.
6. Read Key Ideas on page 326.

7. In your math journal, describe how to multiply and divide radicals. Use an example for each to illustrate.

8. In the textbook, complete pages 327-329 #1-4, 8, 10, 14, 15, 17, 18.

Expectation #3: Add and subtract rational expressions.

1. [Watch and take notes on instructional video on Adding and Subtracting Rational Expressions.](#)

2. In the textbook, read Link the Ideas on page 332.
3. Work through Examples 1 and 2 on pages 333-335. Now complete Your Turn on pages 333 and 335.

4. Read *Key Ideas* on page 335. In your math journal, describe how to add and subtract rational expressions. Use an example of each to illustrate.

5. In the textbook, complete pages 336-339 #1-3, 5-10, 16, 18.

REVIEW AND CHALLENGE

1. In the textbook, complete the Chapter 6 Review -- pages 352-354 #1, 3, 6 - 11, 13 – 15.

Key Terms: rational expression, non-permissible value.

PRACTICE QUIZZES

Practice quiz #1
Practice quiz #2
Practice quiz #3
Practice quiz #4