

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

 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](#)