

Advanced Mathematics 2200

Unit 6: Rational Expressions and Equations

Text: Pre – Calculus 11

Chapter 6

By the end of the unit, it is expected that students will:

Outcomes	Text Book
<p>1. Determine equivalent forms of rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).</p> <ul style="list-style-type: none"> • <i>Explain why a given value is non-permissible for a given rational expression.</i> • <i>Determine the non-permissible values for a rational expression</i> • <i>Compare the strategies for writing equivalent forms of rational expressions to the strategies for writing equivalent forms of rational numbers.</i> • <i>Determine a rational expression that is equivalent to a given rational expression by multiplying the numerator and denominator by the same factor (limited to a monomial or a binomial), and state the non-permissible values of the equivalent rational expression.</i> • <i>Simplify a rational expression.</i> • <i>Explain why the non-permissible values of a given rational expression and its simplified form are the same.</i> • <i>Identify and correct errors in a given simplification of a rational expression, and explain the reasoning.</i> 	<p>Section 6.1 pp. 310 - 321</p>
<p>2. Perform operations on rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).</p> <ul style="list-style-type: none"> • <i>Compare the strategies for performing a given operation on rational expressions to the strategies for performing the same operation on rational numbers.</i> • <i>Determine the non-permissible values when performing operations on rational expressions.</i> • <i>Determine, in simplified form, the product or quotient of rational expressions.</i> 	<p>Section 6.2 pp. 322 - 330</p>
<ul style="list-style-type: none"> • <i>Determine, in simplified form, the sum or difference of rational expressions with the same denominator.</i> • <i>Determine, in simplified form, the sum or difference of rational expressions in which the denominators are not the same and which may or may not contain common factors.</i> • <i>Simplify an expression that involves two or more operations on rational expressions.</i> 	<p>Section 6.3 pp. 331 - 340</p>

3. Solve problems that involve rational equations (limited to numerators and denominators that are monomials, binomials or trinomials).

- *Determine the non-permissible values for the variable in a rational equation.*
- *Determine the solution to a rational equation algebraically, and explain the strategy used to solve the equation.*
- *Explain why a value obtained in solving a rational equation may not be a solution of the equation.*
- *Solve problems by modeling a situation using a rational equation.*

Section 6.4
pp.341 - 351