## Advanced Mathematics 2200

Unit 5: Radical Expressions and Equations
Text: Pre-Calculus 11
Chapter 5
By the end of this unit, it is expected that students will:

| Outcome |
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| 1. Solve problems that involve operations on radicals and radical expressions |
| with numerical and variable radicands. |

- Compare and order radical expressions with numerical radicands in a given set.
- Express an entire radical with a numerical radicand as a mixed radical.
- Express a mixed radical with a numerical radicand as an entire radical.
- Explain using examples that $(-x)^{2}=x^{2}, \sqrt{x^{2}}=|x|$, and $\sqrt{x^{2}} \neq \pm x$.
- Identify the values of the variable for which a given radical expression is defined.
- Express an entire radicand with a variable radicand as a mixed radical.
- Express a mixed radicand with a variable radicand as an entire radical.
- Perform one or more operation to simplify radical expressions with numerical or variable radicands.
- Rationalize the denominator of a rational expression with monomial or binomial denominators.
- Describe the relationship between rationalizing a binomial denominator of a rational expression and the product of the factors of a difference of squares expression.

2. Solve problems that involve radical equations (limited to square roots).

- Determine any restrictions on values for the variable in a radical equation.
- Determine the roots of a radical equation algebraically, and explain the process used to solve the equation.
- Verify, by substitution, that the values determined in solving a radical equation algebraically are roots of the equation.
- Explain why some roots determined in solving a radical equation

Section 5.3
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Section 5.1
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Section 5.2
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|  | algebraically are extraneous. |  |
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| $\bullet$ | Solve problems by modeling a situation using a radical equation. |  |
| $<$ | Review | Pages $304-305$ |
| $<$ | Practice Test | Pages $306-307$ |

