

Mathematics
Algebra 1: CP
Unit 11: Rational Expressions & Equations

Essential Understandings	<ul style="list-style-type: none"> ▪ Understanding the rules of rational expressions as well as how to solve rational equations is an important algebraic skill.
Essential Questions	<ul style="list-style-type: none"> ▪ How do you solve proportions? ▪ How do simplify rational expressions? ▪ How do you multiply and divide rational expressions? ▪ How do you add and subtract rational expressions? ▪ How do you solve rational equations?
Essential Knowledge	<ul style="list-style-type: none"> ▪ Solve proportions by cross multiplying. ▪ Simplify rational expressions can be done by using factoring. ▪ Rational expressions can be multiplied and divided. ▪ Rational expressions can be added and subtracted. ▪ Rational equations can be solved.
Vocabulary	<ul style="list-style-type: none"> ▪ <u>Terms:</u> <ul style="list-style-type: none"> ○ proportions, cross product property, rational expressions, rational equations, least common denominator
Essential Skills	<ul style="list-style-type: none"> ▪ Solve proportions. ▪ Simplify rational expressions. ▪ Multiply and divide rational expressions. ▪ Add and subtract rational expressions. ▪ Solve rational equations.
Related Maine Learning Results	<p><u>Mathematics</u> D. Algebra Equations and Inequalities D2.Students solve families of equations and inequalities.</p> <ol style="list-style-type: none"> a. Solve systems of linear equations and inequalities in two unknowns and interpret their graphs. b. Solve quadratic equations graphically, by factoring in cases where factoring is efficient, and by applying the quadratic formula. c. Solve simple rational equations. d. Solve absolute value equations and inequalities and interpret the results. e. Apply the understanding that the solution(s) to equations of the form $f(x) = g(x)$ are x-value(s) of the point(s) of intersection of the graphs of $f(x)$ and $g(x)$ and common outputs in table of values. f. Explain why the coordinates of the point of intersection of the lines represented by a system of equations is its solution and apply this understanding to solving problems. <p>D3.Students understand and apply ideas of logarithms.</p> <ol style="list-style-type: none"> a. Use and interpret logarithmic scales.

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	b. Solve equations in the form of $x + b^y$ using the equivalent form $y = \log_b x$.
Sample Lessons And Activities	<ul style="list-style-type: none"> ▪ Students will orally respond to questions. ▪ Students will utilize worksheets and in their notes to demonstrate individual understanding of the concepts.
Sample Classroom Assessment Methods	<ul style="list-style-type: none"> ▪ Evaluate homework ▪ Quizzes ▪ Chapter test
Sample Resources	<ul style="list-style-type: none"> ▪ <u>Publications:</u> <ul style="list-style-type: none"> ○ <u>Algebra 1</u> - McDougall Littell