

Unit 6: Rational expressions and equations

(Chapter 6, page 242)

<input type="checkbox"/>	<p>Rational expression</p> <p>Quotient of two polynomials</p> $\frac{x^2 + 7xy - 4}{x^2 - y^2} = (x^2 - y^2) \div (x^2 - y^2)$	<p>Theorem 7-1</p>												
<input type="checkbox"/>	<p>Excluded values ; Acceptable replacements</p>													
<input type="checkbox"/>	<table border="1"> <thead> <tr> <th data-bbox="269 800 651 877"></th> <th data-bbox="651 800 1032 877">Example with integers</th> <th data-bbox="1032 800 1414 877">Example with polynomials</th> </tr> </thead> <tbody> <tr> <td data-bbox="269 877 651 1062"> $\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ <p>Theorem 6-1</p> </td> <td data-bbox="651 877 1032 1062"></td> <td data-bbox="1032 877 1414 1062"></td> </tr> <tr> <td data-bbox="269 1062 651 1247"> $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$ <p>Theorem 6-3</p> </td> <td data-bbox="651 1062 1032 1247"></td> <td data-bbox="1032 1062 1414 1247"></td> </tr> <tr> <td data-bbox="269 1247 651 1478"> $\frac{a}{c} + \frac{b}{c} = \frac{a + b}{c}$ <p>Theorem 6-4</p> </td> <td data-bbox="651 1247 1032 1478"></td> <td data-bbox="1032 1247 1414 1478"></td> </tr> </tbody> </table>			Example with integers	Example with polynomials	$\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ <p>Theorem 6-1</p>			$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$ <p>Theorem 6-3</p>			$\frac{a}{c} + \frac{b}{c} = \frac{a + b}{c}$ <p>Theorem 6-4</p>		
	Example with integers	Example with polynomials												
$\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ <p>Theorem 6-1</p>														
$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$ <p>Theorem 6-3</p>														
$\frac{a}{c} + \frac{b}{c} = \frac{a + b}{c}$ <p>Theorem 6-4</p>														
<input type="checkbox"/>	<p>Addition with UNLIKE denominators</p> <p>Integers: Least Common Denominator (LCD)</p> $\frac{2}{9} + \frac{7}{30} - \frac{5}{6} =$													

--

<input type="checkbox"/>	<p>Addition with UNLIKE denominators (cont.)</p> <p>----- Example</p> $\frac{1}{2x} + \frac{5x}{x^2 - 1} + \frac{3}{x + 1} =$	
<input type="checkbox"/>	<p>Complex rational expressions</p> $\frac{1 + \frac{1}{x}}{1 - \frac{1}{x^2}} =$	Page 256
<input type="checkbox"/>	<p>Polynomial division</p>	
<input type="checkbox"/>	<p>Long division of integers</p> $375325 \div 12 = ?$	

--

--

<input type="checkbox"/>	Division by monomial $(15y^5 - 6y^4 + 18y^3) \div (3y^2) =$					
<input type="checkbox"/>	Long division $(9y^4 + 14y^2 - 8) \div (3y + 2) =$	Page 260				
<input type="checkbox"/>	Synthetic division $(4x^3 + x + 7) \div (x - 2) =$ <table border="1" data-bbox="267 1081 1421 1753"><thead><tr><th data-bbox="267 1081 841 1123">Long division</th><th data-bbox="841 1081 1421 1123">Synthetic division</th></tr></thead><tbody><tr><td data-bbox="267 1123 841 1753"></td><td data-bbox="841 1123 1421 1753"></td></tr></tbody></table>		Long division	Synthetic division		
Long division	Synthetic division					

--

--

	Solving rational equations	Page 266
<input type="checkbox"/>	<p>Solve</p> $\frac{2}{x+5} + \frac{1}{x-5} = \frac{16}{x^2-25}$ <p>Remember: Check your answer, and be aware of excluded values</p>	
<input type="checkbox"/>	<p>Just a short reminder: We had fun with infinite complex fractions.</p> $\frac{1}{2 - \frac{1}{\left(2 - \frac{1}{2 - \frac{1}{2 - \frac{1}{(2 - \dots)}}}\right)}} = ?$	

--