

**M007 – Elementary Algebra**  
**Practice Quiz 6 (6.1-6.4)**

Note: This review sheet was created to correspond with the sixth quiz in M007. As such, this document is only to help you review the concepts presented in your text. Each instructor may have other specific problems you should review in order to be prepared for quizzes and/or exams in your section of the course.

**Simplify the following radical expressions.**

1.  $\frac{64x^5y^4}{16x^6y^{-1}}$

2.  $\frac{12xy^3}{6x^3y^4}$

3.  $\frac{2x^2 - x - 15}{x^2 - 9}$

4.  $\frac{2x^2 - 9x - 5}{3x^2 - 17x + 10}$

**Multiply or Divide and if possible simplify.**

5.  $\frac{x^4 - 81}{x^4 - 16} \cdot \frac{x^2 + 4}{x^2 - 9}$

6.  $\frac{a^2 - 64}{25a} \cdot \frac{55a}{8 - a}$

7.  $\frac{y^2}{y^2 - 4} \div \frac{y^2 - 3y}{y^2 - 5y + 6}$

8.  $\frac{x^2 + 10x + 21}{x^2 + 5x + 4} \div \frac{x^3 + 7x^2}{x^2 + 4x}$

**Perform the indicated operations. Simplify if possible.**

9.  $\frac{x^2 - 7}{x^2 + 7x + 12} - \frac{9}{x^2 + 7x + 12}$

10.  $\frac{2x - 12}{x^2 + 6x + 9} + \frac{x^2 - 3x}{x^2 + 6x + 9}$

11.  $\frac{4}{x + 2} + \frac{x + 1}{x^2 - 4} - \frac{3}{x - 2}$

12.  $\frac{5x}{x^2 - 3x - 4} - \frac{2x}{x^2 - 6x + 8}$

13. If a rational expression is undefined for  $x=5$  and  $x=-3$ , what might the rational expression have been? What is the degree of the denominator for the rational expression?
14. Why is it important to insert parenthesis when multiplying rational expressions in which the numerators and the denominators contain more than one term?
15. Explain why the product of two numbers is not always their least common multiple.