

***Simplify each expression completely and find all restrictions on the variable(s).  
Complete all work on a separate sheet of paper.***

1.  $\frac{12x^4yz^7}{18x^3y^{11}}$

2.  $\frac{a(3-a)(a+6)}{a^3+a^2-12a}$

3.  $\frac{x^2+5x-14}{28+3x-x^2}$

4.  $\frac{14xy^2z^3}{21w^4x^2yz} \cdot \frac{7wxyz}{12w^2y^3z}$

5.  $\frac{y^2+8y+15}{y^2-36} \cdot \frac{y^2-9y+18}{y^3-27}$

6.  $\frac{c^3-6c^2-16c}{c^2-d^2} \cdot \frac{5c+5d}{c^2-8c}$

7.  $\frac{9x^2-30x+25}{3x^3-5x^2+12x-20} \div \frac{6x^2-7x-5}{x^4+5x^2+4}$

8.  $\frac{x^2-4x-21}{9-x^2} \div \left( \frac{2x^2+7x+3}{2x^2-15x+7} \right)^{-1}$

9.  $\frac{\frac{8c^2-10c-3}{10c^2+35c-20}}{\frac{2c^2+c-6}{4c^2+18c+8}}$

10.  $\frac{\frac{8a^5}{4a^2-7a+3}}{4a^2}$   
 $\frac{4a^5}{2a^3-2}$

11.  $\frac{4x^2-9x-9}{3x^2+6x-24} \div \frac{-2x^2+5x+3}{x^2-4x-32} \cdot \left( \frac{8x^2+10x+3}{6x^2-6x-12} \right)^{-1}$

NAME \_\_\_\_\_ DATE \_\_\_\_\_  
ALGEBRA II WORKSHEET: ADDING AND SUBTRACTING RATIONAL EXPRESSIONS

***Simplify each expression completely and find all restrictions on the variable(s).  
Complete all work on a separate sheet of paper.***

1.  $\frac{4}{15x^3y^2} - \frac{3}{35x^2y^4z}$

2.  $\frac{4}{y^2 - 2y - 35} + \frac{6}{y^2 + 9y + 20}$

3.  $\frac{x}{x^2 - 16} + \frac{5}{x^2 - x - 20}$

4.  $\frac{6}{2x^2 + 11x - 6} - \frac{8}{x^2 + 3x - 18}$

5.  $5 - \frac{3}{2m^2 - 13m + 6}$

6.  $\frac{1}{8x^2 - 20x - 12} + \frac{4}{6x^2 + 27x + 12}$

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

8.  $\frac{x^2 + x}{x^2 - 9x + 8} + \frac{4}{x - 1} - \frac{3}{x - 8}$

9.  $\frac{\frac{5}{x+6} - \frac{2x}{2x-1}}{\frac{x}{2x-1} + \frac{4}{x+6}}$

10.  $\frac{\frac{2}{a-1} + \frac{3}{a-4}}{\frac{6}{a^2 - 5a + 4}}$

11.  $\frac{\frac{1}{x} + y^{-1}}{\frac{1}{x} - y}$