

Secondary Math III
Dividing Rational Expressions
Assignment 5.2

Name _____
Period _____

Carnegie Book: Make sure you list the domain restrictions for each problem.

Pg. 607 #3(a - c)

Pg. 609 #7(a & c)

Don't forget to FACTOR! Show factored form for all problems after #6.

Divide:

1. $\frac{8}{9} \div \frac{2}{3}$

2. $\frac{4}{21} \div \frac{12}{49}$

3. $\frac{1}{8} \div \frac{7}{4} \cdot 14$

Divide each expression. Describe any restriction(s) for the variables and simplify the answer when possible.

4. $\frac{3c^2}{5ab} \div \frac{9}{2a}$

5. $\frac{13x^2}{3y^4} \div \frac{39x^5}{12y^6}$

6. $\frac{(x+3)(x-4)^2}{x+8} \div \frac{(x-4)(x+2)}{(x+8)(x-1)}$

7. $\frac{x-1}{x} \div \frac{x^2-1}{2x}$

8. $\frac{x^2+6x-27}{x^2} \div \frac{x^2-3x}{9}$

9. $\frac{x^2-9}{x+3} \div (x-3)$

$$10. \frac{2x^2 - 2x}{x^2 + 2x + 1} \div \frac{3x - 3}{2x + 2}$$

$$11. \frac{x^2 + 4x + 3}{2x^2 - 11x + 5} \div \frac{x^2 + 3x}{2x - 1}$$

$$12. \frac{x^2 - 121}{x^2 + x - 20} \div \frac{x^2 - 10x - 11}{x^2 - 25}$$

$$13. \frac{(x-5)^3}{(x+2)^2(2x-3)^4} \div \frac{(x-5)^5}{(x+2)(2x-3)^2}$$

Multiply or divide as indicated. Show all work.

$$14. \frac{x^2 - 49}{x^2 + 4x - 21} \cdot \frac{x^2 + 8x + 15}{x^2 - 2x - 35}$$

$$15. \frac{2x^2 + 3x - 2}{3x - 15} \div \frac{2x^2 - x}{x^2 - 3x - 10} \cdot \frac{5x^2 - 10x}{3x^2 + 12x + 12}$$