

WHEN NOT TO USE THE QUOTIENT RULE

Not every quotient needs to be differentiated by the Quotient Rule.

When a quotient can be considered as a product of a constant times a function of  $x$ , the Constant Multiple Rule is more convenient than the Quotient Rule.

In other cases, using the Power Rule with negative exponents is preferable to using the Quotient Rule.

DIRECTIONS: Complete the following table WITHOUT USING THE QUOTIENT RULE.  
[\* Note that two characteristics of a "simplified final form" are the absence of negative exponents and the combining of like terms.]

<u>FUNCTION</u>	<u>REWRITE</u>	<u>DERIVATIVE</u>	* <u>SIMPLIFY</u>
1. $y = \frac{x^2 + 2x}{x}$			
2. $y = \frac{4x^{3/2}}{x}$			
3. $y = \frac{7}{3x^3}$			
4. $y = \frac{4}{5x^2}$			
5. $y = \frac{x^2 + 3x}{6}$			
6. $y = \frac{3x^2 - 5}{7}$			
7. $y = \frac{x^2 - 4}{x + 2}$			
8. $y = \frac{-3(3x - 2x^2)}{7x}$			