quotient rule

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The *quotient rule* says that the derivative of the quotient f/g of two differentiable functions f and g exists at all values of x as long as $g(x) \neq 0$ and is given by the formula

$$\frac{d}{dx} \left[\frac{f(x)}{g(x)} \right] = \frac{g(x)f'(x) - f(x)g'(x)}{[g(x)]^2}$$

The Quotient Rule and the other differentiation formulas allow us to compute the derivative of any rational function.