MATH 2B/5B Prep: Product & Quotient Rule

Facts to Know:

Rules for taking the derivative of a product or quotient of functions.

Product Rule: $\frac{\mathrm{d}}{\mathrm{d}x} f(x)g(x) =$

Quotient Rule: $\dfrac{\mathrm{d}}{\mathrm{d}x} \dfrac{f(x)}{g(x)} =$

Examples:

1. Compute the derivative of $y = x^3 \cos(x)$.

2. Use quotient rule to show the derivative of $\tan(x)$ is $\sec^2(x)$.