The Chain Rule

Practice Problems

1. Find the derivative of the $h(t) = (3t+4)^2$ using the Chain Rule. Then find it without using the Chain Rule to check your answer.

2. Find the derivative of the following functions.

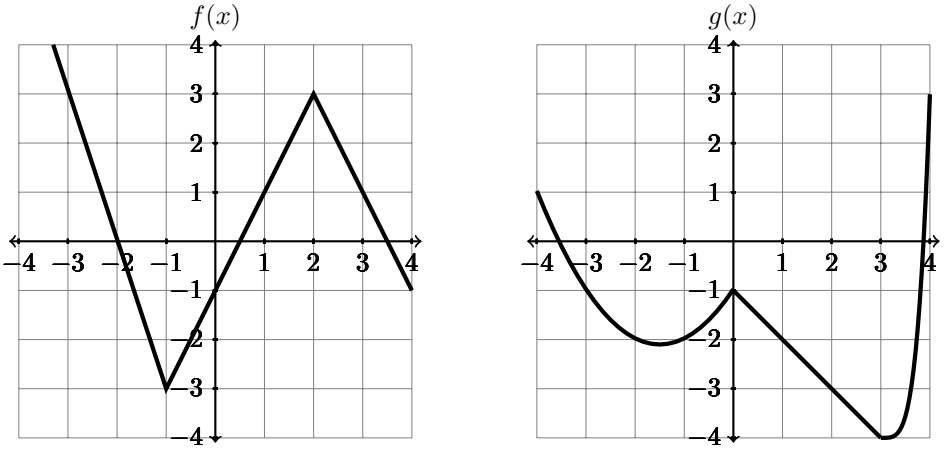
   (a) $\tan(x^3)$

   (b) $e^{\sin(x)} + \sin(\pi x)$

   (c) $\dfrac{1}{(6x^2-2)^{1/3}}$

   (d) $\left(\dfrac{x^3-1}{x^4+7}\right)^7$

3. Here are graphs of two functions, $f(x)$ and $g(x)$. If $F(x) = f(g(x))$, what is $F'(1)$?



Challenge Problem

Find the derivative of the following function.

(a) $\cos^3(\tan(x))$