Math 181 Quiz 5 Version A

1. State the following derivative rules from memory:

$\frac{d}{dx}\cos x =$ $\boxed{}$ $\frac{d}{dx}\sin x =$ $\boxed{}$ $\frac{d}{dx}e^x =$ $\boxed{}$

$\frac{d}{dx}\big[f(x)g(x)\big] =$ $\boxed{}$

$\frac{d}{dx}\frac{f(x)}{g(x)} =$ $\boxed{}$

$\frac{d}{dx}f\big(g(x)\big) =$ $\boxed{}$

$\frac{d}{dx}x^n =$ $\boxed{}$ $\frac{d}{dx}f^{-1}(x) =$ $\boxed{}$

2. Use the fact that $\lim_{h\to 0}\frac{\sin h}{h} = 1$ to show that $\lim_{h\to 0}\frac{(\cos h) - 1}{h} = 0$.