**7 derivative problems you should know how to do:**

| | |
|---|---|
| 1. Prove that $\frac{d}{dx}\tan^{-1} x = \frac{1}{1+x^2}$<br>2. $\frac{d}{dx} x^{\sec x}$<br>3. $\frac{d}{dx} 2^x$<br>4. $\frac{d}{dx}\log_5(x^2+3x)$ | 5. $\frac{d}{dx} e^{\tan x} + \ln(x^5(3x+7))$<br>6. $\frac{d}{dx}\sqrt{x}\, e^{4x}$<br>7. $\frac{d}{dx}\frac{e^{3x}+e^{-3x}}{x^2}$ |